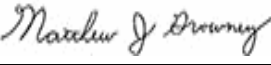


AWARD/CONTRACT		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)		RATING		PAGE OF PAGES 1 93	
2. CONTRACT (Proc. Inst. Ident.) NO. 68HERC20D0029				3. EFFECTIVE DATE 10/01/2020		4. REQUISITION/PURCHASE REQUEST/PROJECT NO. PR-ORD-19-01463	
5. ISSUED BY CODE CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001		6. ADMINISTERED BY (If other than Item 5) CODE SCD-C					
7. NAME AND ADDRESS OF CONTRACTOR (No., street, country, State and ZIP Code) PEGASUS TECHNICAL SERVICES, INC. Attn: Bijoli Saha 46 E. HOLLISTER STREET CINCINNATI OH 452191704				8. DELIVERY <input type="checkbox"/> FOB ORIGIN <input checked="" type="checkbox"/> OTHER (See below)			
				9. DISCOUNT FOR PROMPT PAYMENT			
				10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN		ITEM	
CODE 946650058		FACILITY CODE					
11. SHIP TO/MARK FOR CODE ORD CIN Office of Research and Development US Environmental Protection Agency 26 West Martin Luther King Drive Cincinnati OH 45268		12. PAYMENT WILL BE MADE BY CODE RTP RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711					
13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input type="checkbox"/> 10 U.S.C. 2304 (c) () <input checked="" type="checkbox"/> 41 U.S.C. 3304 (a) ()				14. ACCOUNTING AND APPROPRIATION DATA See Schedule			
15A. ITEM NO	15B. SUPPLIES/SERVICES			15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	Continued						
15G. TOTAL AMOUNT OF CONTRACT						\$50,000,000.00	
16. TABLE OF CONTENTS							
(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
PART I - THE SCHEDULE				PART II - CONTRACT CLAUSES			
	A	SOLICITATION/CONTRACT FORM			I	CONTRACT CLAUSES	
	B	SUPPLIES OR SERVICES AND PRICES/COSTS		PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.			
	C	DESCRIPTION/SPECS./WORK STATEMENT			J	LIST OF ATTACHMENTS	
	D	PACKAGING AND MARKING		PART IV - REPRESENTATIONS AND INSTRUCTIONS			
	E	INSPECTION AND ACCEPTANCE			K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
	F	DELIVERIES OR PERFORMANCE			L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
	G	CONTRACT ADMINISTRATION DATA			M	EVALUATION FACTORS FOR AWARD	
	H	SPECIAL CONTRACT REQUIREMENTS					
CONTRACTING OFFICER WILL COMPLETE ITEM 17 (SEALED-BID OR NEGOTIATED PROCUREMENT) OR 18 (SEALED-BID PROCUREMENT) AS APPLICABLE							
17. <input checked="" type="checkbox"/> CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return _____ copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)				18. <input type="checkbox"/> SEALED-BID AWARD (Contractor is not required to sign this document.) Your bid on Solicitation Number 68HERC19R0096 , including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your bid, and (b) this award/contract. No further contractual document is necessary. (Block 18 should be checked only when awarding a sealed-bid contract.)			
19A. NAME AND TITLE OF SIGNER (Type or print)				20A. NAME OF CONTRACTING OFFICER Matthew Growney			
19B. NAME OF CONTRACTOR		19C. DATE SIGNED		20B. UNITED STATES OF AMERICA BY  ELECTRONIC SIGNATURE		20C. DATE SIGNED 09/25/2020	
BY _____ (Signature of person authorized to sign)				(Signature of the Contracting Officer)			

NAME OF OFFEROR OR CONTRACTOR
 PEGASUS TECHNICAL SERVICES, INC.

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
0001	DUNS Number: 946650058 Max Expire Date: 09/30/2025 Delivery: 09/29/2025 Accounting Info: 20-21-C-26E3000-000FK7XR4-2532-26A6A-2026E3E054-00 1 BFY: 20 EFY: 21 Fund: C Budget Org: 26E3000 Program (PRC): 000FK7XR4 Budget (BOC): 2532 Cost: 26A6A DCN - Line ID: 2026E3E054-001 Period of Performance: 10/01/2020 to 09/30/2025 Office of Research and Development Risk Management and Ecological Exposure Research Support Services II (RMEERS II) Single award, Indefinite Delivery-Indefinite Quantity (IDIQ) with five (5) year Period of Performance FFP or T&M Task Orders Minimum ordering amount: \$150,000.00 Maximum ordering ceiling: \$50,000,000.00				50,000,000.00

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SECTION A - Solicitation/Contract Form

SECTION B - Supplies or Services/Prices

B-1 EPAAR 1552.216-72 ORDERING-BY DESIGNATED ORDERING OFFICERS. (JUL 2014)

(a) The Government will order any supplies and services to be furnished under this contract by issuing task/delivery orders on Optional Form 347, or an agency prescribed form, from 10/01/2020 to 09/30/2025. In addition to the Contracting Officer, the following individuals are authorized ordering officers.

None.

B. Request for Offer

(1) When the government has a requirement for work to be performed under this contract, the Contracting Officer shall notify the contractor of (i) the work to be performed, (ii) the desired performance schedule, (iii) identify the task order as fixed price or time and materials, and (iv) any other information that may be considered to be of assistance to the contractor in preparing a cost proposal, such as, format and submission due date.

(2) The request for offer (RFO) shall not obligate the government to issue task orders under this contract nor shall it authorize the Contractor to perform any work pursuant to such requests for offer prior to receipt of a fully executed task order.

(3) The Contracting Officer may telephone the contractor to identify resource availability for simple, well-defined tasks which only require the contractor to meet a stated schedule.

(4) The Contracting Officer may telephone or issue written requests by hard copy, facsimile, or e-mail to the contractor requesting the submission of an offer for complex tasks, where a technical approach, as well as resource availability and price/cost need to be considered. The request may include a page limitation for the offer based on the complexity of the task.

C. Submission of Offers

(1) Upon receipt of an RFO from the Contracting Officer, the Contractor shall:

(a) acknowledge receipt of the RFO and

(b) furnish an offer within the time specified in the RFO and in the format requested.

(2) Offers shall be submitted orally, or if in writing, in duplicate, and shall include the following:

- (a) Names of the personnel performing and the labor category in which each proposed individual is employed.
- (b) Rationale for the labor categories, skill levels and number of hours proposed and a table or chart demonstrating for each individual proposed that they meet the minimum qualifications for the labor category they are proposed under.
- (c) Cost of ODC's, if applicable
- (d) Cost of travel and per diem, if applicable; travel destination must be specified.
- (e) Schedule of performance.
- (f) Government furnished material/documents required to accomplish the work, if applicable.
- (g) Resumes of all personnel working on the order, if not previously provided.
- (h) All task order offers shall include a conflict of interest certification. Before submitting the conflict of interest certification, the contractor shall search its records accumulated, at a minimum, over the past three years immediately prior to the receipt of the request for offer or similar tasking document. In the COI certification, the contractor must certify that to the best of the contractor's knowledge and belief, all actual or potential organizational conflicts of interest have been reported to the Contracting Officer or that, to the best of the contractor's knowledge and belief, no actual or potential organizational conflicts of interest exist. In addition, the contractor must certify that its personnel who are proposed to perform work under the particular task order, or relating to the task order, have been informed of their obligation to report personal and organizational conflicts of interest to the contractor. The certification shall also include a statement that the contractor recognizes its continuing obligation to identify and report any actual or potential conflicts of interest arising during performance of the task order.

D. Task Order Type and Placement

This is an indefinite delivery/indefinite quantity task order contract pursuant to FAR 16.504. Work shall be ordered by the issuance of task orders. Task Orders issued under this contract

may be issued on a firm-fixed-price or time and material basis. The proposals are subject to negotiation. The Ordering Officer and the Contractor shall reach agreement on all the material terms of each order prior to the order being issued. Each task/delivery order issued will incorporate the Contractor's technical and cost proposals as negotiated with the Government, and each T&M type task order will have a ceiling price which the contractor shall not exceed. When the Contractor has reason to believe that the labor payment and support costs for a T&M order which will accrue in the next thirty (30) days will bring the total cost to over 85 percent of the ceiling price specified in the order, the Contractor shall notify the Ordering Officer.

Under no circumstances will the Contractor start work prior to the issue date of the task/delivery order unless specifically authorized to do so by the Ordering Officer. Any verbal authorization will be confirmed in writing by the Contracting Officer within 3 calendar days.

E. Additional Proposal Instructions

Proposals submitted for time and material task orders will be based on the fixed fully loaded labor rates set forth in the clause below entitled "Fixed Rates for Services-INDEFINITE DELIVERY/INDEFINITE QUANTITY CONTRACT (DEVIATION) (APR 1984)."

F. TO Terms and Conditions

TOs may include their own special terms and conditions including clauses to which the contractor(s) shall adhere. TOs may include option periods. All special terms and conditions will be included in the RFO and the resulting TO.

G. Time and Materials Orders - Other Direct Costs

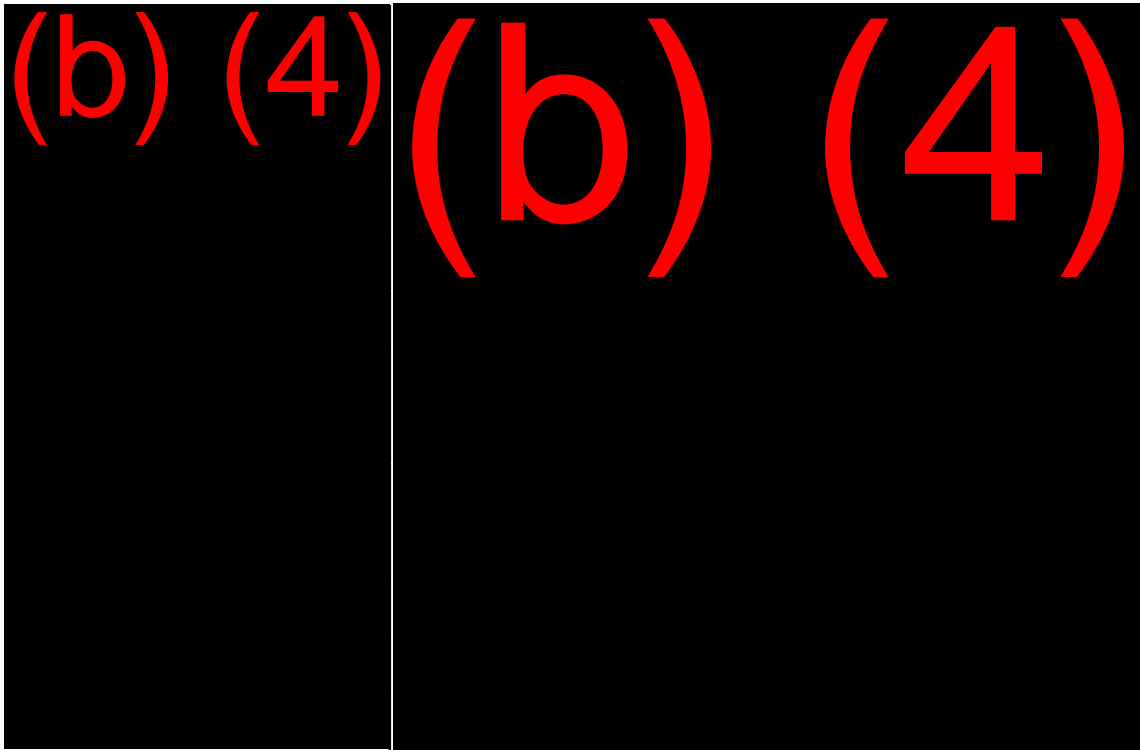
Costs for material and other direct costs will be negotiated on a task order specific basis as appropriate. Reasonable and allocable material handling costs or material indirect costs may be included in the charge for material or other direct costs to the extent they are clearly excluded from the fully loaded hourly labor rates and are in accordance with the Contractor's usual accounting practices consistent with Subpart 31.2 of the Federal Acquisition Regulation (FAR). No profit margin shall be added to material or other direct costs, as profit is included in the fully loaded hourly labor rates.

(End of clause)

B-2 EPAAR 1552.216-73 FIXED RATES FOR SERVICES-INDEFINITE DELIVERY/INDEFINITE QUANTITY CONTRACT. (DEVIATION)(APR 2018)

The following fixed rates shall apply for payment purposes for the duration of the contact.

Labor Category	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
(b) (4)	(b) (4)	(b) (4)	(b) (4)	(b) (4)	(b) (4)



The rate, or rates, set forth above cover all expenses, including report preparation, salaries, overhead, general and administrative expenses, and profit.

The Contractor shall voucher for only the time of the personnel whose services are applied directly to the work called for in individual Orders and accepted by the EPA Contracting Officer's Representative (COR). The Government shall pay the Contractor at rates in effect when the work is performed by the Contractor. The Contractor shall maintain time and labor distribution records for all employees who work under the contract. These records must document time worked and work performed by each individual on all Orders.

(End of clause)

B-3 Local Clauses EPA-B-16-101 MINIMUM AND MAXIMUM AMOUNTS

During the period specified in the "Ordering" clause, the Government shall place orders totaling a minimum of \$150,000. The amount of all orders shall not exceed \$50,000,000.

B-4 Local Clauses EPA-B-32-103 LIMITATION OF GOVERNMENT'S OBLIGATION

- (a) Severable services may be incrementally funded. Non-severable services shall not be incrementally funded. Contract line items TO BE COMPLETED IN APPLICABLE TASK ORDERS through TO BE

COMPLETED IN APPLICABLE TASK ORDERS are severable and may be incrementally funded. For these items, the sum of \$ TO BE COMPLETED IN APPLICABLE TASK ORDERS of the total price is presently available for payment and allotted to this contract

(b) For items identified in paragraph (a) of this clause, the Contractor agrees to perform up to the point at which the total amount payable by the Government, including reimbursement in the event of termination of those items for the Government's convenience, approximates the total amount currently allotted for those items to the contract. The Contractor shall not continue work on those items beyond that point. Subject to the clause entitled "Termination for Convenience of the Government," the Government will not be obligated, under any circumstances, to reimburse the Contractor in excess of the amount payable by the Government in the event of the termination of applicable contract line items for convenience including costs, profit, and estimated termination costs for those line items.

(c) Notwithstanding the dates specified in the allotment schedule in paragraph (h) of this clause, the Contractor will notify the Contracting Officer, in writing, at least 30 days prior to the date when, in the Contractor's best judgment, the work will reach the point at which the total amount payable by the Government, including any cost for termination for convenience, will approximate 85 percent of the total amount currently allotted to the contract for performance of the applicable items. The notification will state (1) the estimated date when that point will be reached and (2) an estimate of additional funding, if any, needed to continue performance of the applicable line items up to the next scheduled date for the allotment of funds identified in paragraph (a) of this clause, or to a substitute date as determined by the Government pursuant to paragraph (d) of this clause. If, after such notification, additional funds are not allotted by the date identified in the Contractor's notification, or by an agreed substitute date, the Contracting Officer will terminate any item(s) for which additional funds have not been allotted, pursuant to the clause entitled "Termination for Convenience of the Government."

(d) The parties contemplate that, subject to the availability of appropriations, the Government may allot additional funds for continued performance of the contract line items identified in paragraph (a) of this clause and will determine the estimated period of contract performance which will be covered by the funds. If additional funds are allotted, the Contracting Officer will notify the Contractor in writing. The Contractor shall not resume performance of the contract line items identified in paragraph (a) until the written notice is received. The provisions of paragraphs (b) through (d) of this clause will apply in like manner to the additional allotted funds and to the new estimated period of contract performance. The contract will be modified accordingly.

(e) The Government may, at any time prior to termination, allot additional funds for the performance of the contract line items identified in paragraph (a) of this clause.

(f) The termination provisions of this clause do not limit the rights of the Government under the clause entitled "Default". The provisions of this clause are limited to the work and allotment of funds for the contract line items set forth in paragraph (a) of this clause. This clause no longer applies once the contract is fully funded.

(g) Nothing in this clause affects the right of the Government to otherwise terminate this contract pursuant to the contract clause entitled "Termination for Convenience of the Government".

(h) The parties contemplate that the Government may obligate funds to this contract in accordance with the following schedule:

RECAPITULATION:

PRIOR THIS NEW

AMOUNT MOD AMOUNT

Prior Amount: \$0.00

Total Maximum Amount: \$50,000,000.00

Funded Amount: \$150,000.00

SECTION C - Description/Specifications

C-1 EPAAR 1552.211-79 COMPLIANCE WITH EPA POLICIES FOR INFORMATION RESOURCES MANAGEMENT. (JUL 2016)

(a) Definition. Information Resources Management (IRM) is defined as any planning, budgeting, organizing, directing, training, promoting, controlling, and managing activities associated with the burden, collection, creation, use and dissemination of information. IRM includes both information itself and the management of information and related resources such as personnel, equipment, funds, and technology. Examples of these services include but are not limited to the following:

- (1) The acquisition, creation, or modification of a computer program or automated data base for delivery to EPA or use by EPA or contractors operating EPA programs.
- (2) The analysis of requirements for, study of the feasibility of, evaluation of alternatives for, or design and development of a computer program or automated data base for use by EPA or contractors operating EPA programs.
- (3) Services that provide EPA personnel access to or use of computer or word processing equipment, software, or related services.
- (4) Services that provide EPA personnel access to or use of: Data communications; electronic messaging services or capabilities; electronic bulletin boards, or other forms of electronic information dissemination; electronic record-keeping; or any other automated information services.

(b) General. The Contractor shall perform any IRM-related work under this contract in accordance with the IRM policies, standards, and procedures set forth on the Office of Environmental Information policy Web site. Upon receipt of a work request (i.e. delivery order, task order, or work assignment), the Contractor shall check this listing of directives. The applicable directives for performance of the work request are those in effect on the date of issuance of the work request. The 2100 Series (2100-2199) of the Agency's Directive System contains the majority of the Agency's IRM policies, standards, and procedures.

(c) *Section 508 requirements (accessibility)*. Contract deliverables are required to be compliant with Section 508 requirements (accessibility for people with disabilities). The Environmental Protection Agency policy for 508 compliance can be found at www.epa.gov/accessibility.

(d) Electronic access. A complete listing, including full text, of documents included in the 2100 Series of the Agency's Directive System is maintained on the EPA Public Access Server on the Internet at <http://www2.epa.gov/irmpoli8/current-information-directives>.

(End of clause)

C-2 Local Clauses EPA-C-10-101 STATEMENT OF WORK/PERFORMANCE WORK
STATEMENT/SPECIFICATIONS

The Contractor shall furnish the necessary personnel, material, equipment, services, and facilities (except as otherwise specified), to perform the Performance Work Statement (PWS) requirements included in Attachment 1. Work will be ordered against the PWS through Contracting Officer issuance of Task Orders.

C-3 Local Clauses EPA-C-10-103 INCORPORATION OF CONTRACTOR'S QUALITY ASSURANCE (QA) PLAN

The Contractor shall adhere to the procedures set forth in its QA plan dated **April 3, 2020**, which is incorporated by reference.

SECTION D - Packaging and Marking

SECTION E - Inspection and Acceptance

E-1 FAR 52.246-4 INSPECTION OF SERVICES - FIXED-PRICE. (AUG 1996)

(a) *Definitions. Services*, as used in this clause, includes services performed, workmanship, and material furnished or utilized in the performance of services.

(b) The Contractor shall provide and maintain an inspection system acceptable to the Government covering the services under this contract. Complete records of all inspection work performed by the Contractor shall be maintained and made available to the Government during contract performance and for as long afterwards as the contract requires.

(c) The Government has the right to inspect and test all services called for by the contract, to the extent practicable at all times and places during the term of the contract. The Government shall perform inspections and tests in a manner that will not unduly delay the work.

(d) If the Government performs inspections or tests on the premises of the Contractor or a subcontractor, the Contractor shall furnish, and shall require subcontractors to furnish, at no increase in contract price, all reasonable facilities and assistance for the safe and convenient performance of these duties.

(e) If any of the services do not conform with contract requirements, the Government may require the Contractor to perform the services again in conformity with contract requirements, at no increase in contract amount. When the defects in services cannot be corrected by reperformance, the Government may (1) require the Contractor to take necessary action to ensure that future performance conforms to contract requirements; and (2) reduce the contract price to reflect the reduced value of the services performed.

(f) If the Contractor fails to promptly perform the services again or to take the necessary action to ensure future performance in conformity with contract requirements, the Government may (1) by contract or otherwise, perform the services and charge to the Contractor any cost incurred by the Government that is directly related to the performance of such service; or (2) terminate the contract for default.

E-2 FAR 52.246-6 INSPECTION - TIME-AND-MATERIAL AND LABOR-HOUR. (MAY 2001)

(a) *Definitions. As used in this clause--*

Contractor's managerial personnel means any of the Contractor's directors, officers, managers, superintendents, or equivalent representatives who have supervision or direction of -

(1) All or substantially all of the Contractor's business;

(2) All or substantially all of the Contractor's operation at any one plant or separate location where the contract is being performed; or

(3) A separate and complete major industrial operation connected with the performance of this contract.

Materials includes data when the contract does not include the Warranty of Data clause.

(b) The Contractor shall provide and maintain an inspection system acceptable to the Government covering the material, fabricating methods, work, and services under this contract. Complete records of all inspection work performed by the Contractor shall be maintained and made available to the Government during contract performance and for as long afterwards as the contract requires.

(c) The Government has the right to inspect and test all materials furnished and services performed under this contract, to the extent practicable at all places and times, including the period of performance, and in any event before acceptance. The Government may also inspect the plant or plants of the Contractor or any subcontractor engaged in contract performance. The Government shall perform inspections and tests in a manner that will not unduly delay the work.

(d) If the Government performs inspection or test on the premises of the Contractor or a subcontractor, the Contractor shall furnish and shall require subcontractors to furnish all reasonable facilities and assistance for the safe and convenient performance of these duties.

(e) Unless otherwise specified in the contract, the Government shall accept or reject services and materials at the place of delivery as promptly as practicable after delivery, and they shall be presumed accepted 60 days after the date of delivery, unless accepted earlier.

(f) At any time during contract performance, but not later than 6 months (or such other time as may be specified in the contract) after acceptance of the services or materials last delivered under this contract, the Government may require the Contractor to replace or correct services or materials that at time of delivery failed to meet contract requirements. Except as otherwise specified in paragraph (h) below, the cost of replacement or correction shall be determined under the Payments Under Time-and-Materials and Labor-Hour Contracts clause, but the *hourly rate* for labor hours incurred in the replacement or correction shall be reduced to exclude that portion of the rate attributable to profit. The Contractor shall not tender for acceptance materials and services required to be replaced or corrected without disclosing the former requirement for replacement or correction, and, when required, shall disclose the corrective action taken.

(g)(1) If the Contractor fails to proceed with reasonable promptness to perform required replacement or correction, and if the replacement or correction can be performed within the ceiling price (or the ceiling price as increased by the Government), the Government may -

(i) By contract or otherwise, perform the replacement or correction, charge to the Contractor any increased cost, or deduct such increased cost from any amounts paid or due under this contract; or

(ii) Terminate this contract for default.

(2) Failure to agree to the amount of increased cost to be charged to the Contractor shall be a dispute.

(h) Notwithstanding paragraphs (f) and (g) above, the Government may at any time require the Contractor to remedy by correction or replacement, without cost to the Government, any failure by the Contractor to comply with the requirements of this contract, if the failure is due to (1) fraud, lack of good faith, or willful misconduct on the part of the Contractor's managerial personnel or (2) the conduct of one or more of the Contractor's employees selected or retained by the Contractor after any of the Contractor's managerial personnel has reasonable grounds to believe that the employee is habitually careless or unqualified.

(i) This clause applies in the same manner and to the same extent to corrected or replacement materials or services as to materials and services originally delivered under this contract.

(j) The Contractor has no obligation or liability under this contract to correct or replace materials and services that at time of delivery do not meet contract requirements, except as provided in this clause or as may be otherwise specified in the contract.

(k) Unless otherwise specified in the contract, the Contractor's obligation to correct or replace Government-furnished property shall be governed by the clause pertaining to Government property.

(End of clause)

E-3 FAR 52.246-11 Higher-Level Contract Quality Requirement (Dec 2014)

(a) The Contractor shall comply with the higher-level quality standard(s) listed below:

(See Performance Work Statement, Section 5)

As part of the pre-award documentation, the Contractor shall provide as a separate and identifiable part of the technical proposal a Quality Management Plan (QMP) prepared in accordance with EPA Requirements for Quality Management Plans, EPA QA/R-2, EPA/240/B-01/002, March 2001. The QMP shall describe the Contractor's quality system relevant to the PWS and the Policy and Program Requirements for the Mandatory Agency-Wide Quality System (CIO 2105.0). The Contractor shall comply with the USEPA-approved QMP. Referenced USEPA quality system documents can be found at <https://www.epa.gov/quality/agency-wide-quality-system-documents>.

For this contract, the following additional contract-level quality assurance (QA requirements shall be addressed by the Contractor's quality system:

1) The Contractor shall ensure that all subcontractors comply with all QA requirements levied on the contractor by USEPA.

2) The Contractor shall permit authorized representatives of USEPA to conduct QA assessments of contract-related activities. The Contractor shall participate in Performance Evaluation assessments as directed by USEPA. [EPA QA/G-7].

3) The Contractor shall comply with all requirements as delineated in each task order issued by the Contracting Officer. As directed by USEPA, QAPPs will be prepared by the contractor in accordance with EPA Requirements for QA Project Plans, EPA QA/R-5, EPA/240/B-01/003, March 2001. USEPA will specify the applicability of the graded approach for each task order (typically denoted as QA Category B research), in which a subset of EPA QA/R-5 requirements will be applicable. For projects identified by USEPA as QA Category A research, the Contractor shall perform at least one internal audit/ assessment for each QA Category A research project to ensure compliance with the USEPA-approved QAPP. The Contractor shall provide these Contractor audit reports to USEPA upon request.

4) For USEPA deliverables involving environmental data or environmental technologies, the Contractor shall implement an internal document review process that includes review by the Contractor's QA Manager. The Contractor shall provide documentation of Contractor review to USEPA upon request.

5) The Contractor shall use standard methods and procedures such as Standard Methods for the Examination of Water and Wastewater, USEPA SW-846 test methods, and ASTM International methods, when they exist and are applicable to the research. SOPs developed for sample collection or analysis shall be approved by USEPA.

6) The Contractor shall comply with the USEPA policy titled Policy to Assure Competency of Laboratories, Field Sampling, and Other Organizations Generating Environmental Measurement Data under Agency-Funded Acquisitions <https://www.epa.gov/measurements/documents-about-measurement-competency-under-acquisition-agreements>. In addition, the contractor shall also comply with the following Office of Research and Development (ORD) Policies and Procedures Manual Section requirements: 13.2 Scientific Recordkeeping: Paper, 13.4 Quality Assurance/Quality Control Practices for ORD Laboratory and Field-Based Research, 13.6 Scientific Recordkeeping: Electronic. (See PWS Attachments)

7) The Contractor shall comply with the USEPA policy titled EPA QA Field Activities Procedures <https://www.epa.gov/irmpoli8/epa-qa-field-activities-procedures>.

(b) The Contractor shall include applicable requirements of the higher-level quality standard(s) listed in paragraph (a) of this clause and the requirement to flow down such standards, as applicable, to lower-tier subcontracts, in-

(1) Any subcontract for critical and complex items (see 46.203(b) and (c)); or

(2) When the technical requirements of a subcontract require-

(i) Control of such things as design, work operations, in-process control, testing, and inspection; or

(ii) Attention to such factors as organization, planning, work instructions, documentation control, and advanced metrology.

(End of clause)

SECTION F - Deliveries or Performance

F-1 FAR 52.242-15 STOP-WORK ORDER. (AUG 1989)

F-2 FAR 52.242-17 GOVERNMENT DELAY OF WORK. (APR 1984)

F-3 EPAAR 1552.211-70 REPORTS OF WORK. (OCT 2000)

The Contractor shall prepare and deliver reports, including plans, evaluations, studies, analyses and manuals in accordance with Attachment 3. Each report shall cite the contract number, identify the U.S. Environmental Protection Agency as the sponsoring agency, and identify the name of the Contractor preparing the report.

F-4 EPAAR 1552.211-75 WORKING FILES. (APR 1984)

The Contractor shall maintain accurate working files (by task or work assignment) on all work documentation including calculations, assumptions, interpretations of regulations, sources of information, and other raw data required in the performance of this contract. The Contractor shall provide the information contained in the contractor's working files upon request of the Contracting Officer.

F-5 EPAAR 1552.211-78 ADVISORY AND ASSISTANCE SERVICES. (JUL 2016)

All reports containing recommendations to the Environmental Protection Agency shall include the following information on the cover of each report: (a) Name and business address of the contractor; (b) contract number; (c) contract dollar amount; (d) whether the contract was subject to full and open competition or a sole source acquisition; (e) name of the EPA Contracting Officer's Representative (COR) and the COR's office identification and location; and (f) date of report.

(End of clause)

F-6 Local Clauses EPA-F-12-101 PERIOD OF PERFORMANCE

The period of performance of this contract shall be from 10/01/2020 to 09/30/2025 of all required reports, with an additional 12 months for completion of all orders inclusive of all required reports.

SECTION G - Contract Administration Data

G-1 EPAAR 1552.245-70 GOVERNMENT PROPERTY. (SEP 2009)

(a) The contractor shall not fabricate or acquire, on behalf of the Government, either directly or indirectly through a subcontract, any item of property without prior written approval from the Contracting Officer. If the Contracting Officer authorizes the contractor to acquire and/or fabricate equipment for use in the performance of this contract, the equipment shall be subject to the provisions of the "Government Property" clause and listed on the contract via contract modification.

(b) If the Government provides item(s) of Government property to the contractor for use in the performance of this contract, this property shall be used and maintained by the contractor in accordance with the provisions of the "Government Property" clause.

The "EPA Contract Property Administration Requirements" provided below apply to this contract.

U.S. Environmental Protection Agency

Contract Property Administration Requirements

1. Purpose. This document sets forth the requirements for the U.S. Environmental Protection Agency (EPA) contractors performing Government property management responsibilities under EPA contracts. These requirements supplement those contained in the Government Property clause(s) and Part 45 Government Property of the Federal Acquisition Regulation (FAR).

2. Contract Property Administration (CPAR)

a. EPA Delegation. EPA delegates all contract property administration to the EPA Contract Property Coordinator (CPC). The delegations apply to all EPA contracts issued with or that have the potential to receive, purchase or acquire Government Property or include the Government Property clauses. In addition to administering all contract property, the CPC provides technical expertise and assistance to the Contracting Officer (CO) and Contracting Officer Technical Representative (COTR) relative to Government Property.

b. DCMA Re-delegation. The CPC may request support for contract property management oversight, including property administration and plant clearance, from the Defense Contract Management Agency (DCMA). If DCMA agrees to provide support, DCMA will notify the contractor of the assigned property administrator (PA) and plant clearance officer (PLCO). The DCMA PA is available to the contractor for assistance in all matters of property administration. Notwithstanding the delegation, as necessary, the contractor may contact the EPA CO. In the event of a disagreement between the contractor and the DCMA PA, the contractor should seek resolution from the CO. Unless, otherwise directed in the contract, or this document, all originals of written information or reports, except direct correspondence between the

contractor and the DCMA PA, relative to Government property, should be forwarded to the administrative CO assigned to this contract and the CPC.

c. Disagreements. Notwithstanding the delegation(s), as necessary, the contractor may contact the CO. In the event of a disagreement between the contractor and the PA or the CPC the contractor should seek resolution from the CO.

3. Requests for Government Property.

In accordance with FAR 45.102, the contractor shall furnish all property required for performing Government contracts. If a contractor believes that Government property is required for performance of the contract, the contractor shall submit a written request to the CO. At a minimum, the request shall contain the following elements:

- a. Contract number for which the property is required.
- b. An item(s) description, quantity and estimated cost.
- c. Certification that no like contractor property exists which could be utilized.
- d. A detailed description of the task-related purpose of the property.
- e. Explanation of negative impact if property is not provided by the Government.
- f. Lease versus purchase analysis shall be furnished with the request to acquire property on behalf of the Government, with the exception of requests for material purchases. The contractor may not proceed with acquisition of property on behalf of the Government until receipt of written authorization from the Contracting Officer.

4. Transfer of Government Property. The Contracting Officer initiates the transfer of the government property via a contract modification. The transferor (EPA or another contractor) shall provide to the transferee, the receiving contractor, the information needed to establish and maintain the property records required of FAR 52.245-1, as well as all of the applicable data elements required by Attachment 1 of this clause. The transferee, the receiving contractor, should perform a complete inventory of the property before signing the acceptance document for the property. Accountability will transfer to the receiving contractor upon receipt and acceptance of the property, in accordance with FAR 45.106.

5. Records of Government Property.

a. In accordance with FAR 52.245-1, the contractor shall create and maintain records of all Government property, regardless of value, including property provided to and in the possession of a subcontractor. Material provided by the Government or acquired by the contractor and billed as a direct charge to the contract is Government property and records must be established as such.

b. The Contractor shall identify all Superfund property and designate it as such both on the item and on the Government property record. If it is not practicable to tag the item, the contractor shall write the ID number on a tag, card or other entity that may be kept with the item or in a file.

c. Support documentation used for posting entries to the property record shall provide complete, current and auditable data. Entries shall be posted to the record in a timely manner following an action.

d. For Government vehicles, in addition to the data elements required by EPA, the contractor shall also comply with the General Services Administration (GSA) and Department of Energy (DOE) record and report requirements supplied with all EPA provided motor vehicles. If the above requirements were not provided with the vehicle, the contractor shall notify the designated CPC and the Fleet Manager.

e. When Government property is disclosed to be in the management and/or control of the contractor but not provided under any contract, the contractor shall record and report the property in accordance with FAR 52.245-1.

6. Inventories of Government Property. The contractor shall conduct a complete physical inventory of EPA property at least once per year. The contractor shall report the results of the inventory, including any discrepancies, to the CO. Reconciliation of discrepancies shall be completed in accordance with the schedule negotiated with the CO. See section 10 herein, Contract Closeout, for information on final inventories.

7. Reports of Government Property. EPA requires an annual summary report, for each contract, by contract number, of Government property in the contractor's possession. The annual summary is due as of September 30th of each year, and upon contract termination or expiration.

a. For each classification listed on the EPA Property Report form, with the exception of material, the contractor shall provide the total acquisition cost and total quantity. If there are zero items in a classification, or if there is an ending balance of zero, the classification must be listed with zeros in the quantity and acquisition cost columns.

b. For material, the contractor shall provide the total acquisition cost only.

c. Property classified as Plant Equipment, Superfund and Special Test Equipment must be reported on two separate lines. The first line shall include the total acquisition cost and quantity of all items or systems with a unit acquisition cost of \$25,000 or more. The second line shall include the total acquisition cost and quantity of all items with a unit acquisition cost of less than \$25,000.

d. For items comprising a system, which is defined as "a group of interacting items functioning as a complex whole," the contractor may maintain the record as a system noting all components of the system under the main component or maintain individual records for each item. However, for the annual report of Government property the components must be reported as a system with one total dollar amount for the system, if that system total is \$25,000 or more.

e. The reports are to be received at EPA by the CPC by October 5th of each year.

f. Distribution shall be as follows:

Original to: CPC

One copy: CO

g. Contractors are required to comply with GSA and DOE special reporting requirements for motor vehicles. A statement of these requirements will be provided by the EPA Facility Management and Services Division (FMSD) concurrent with receipt of each vehicle.

h. The contractor shall provide detailed reports on an as-needed basis, as may be requested by the CO or the CPC.

8. Disposition of Government Property. The disposition process is composed of three distinct phases: identification, reporting, and final disposition.

a. Identification. The disposition process begins with the contractor identifying Government property that is no longer required for contract performance. Effective contract property management systems provide for identification of excess as it occurs. Once Government property has been determined to be excess to the accountable contract, it must be screened against the contractor's other EPA contracts for further use. If the property may be reutilized, the contractor shall notify the CO in writing. Government property will be transferred via contract modifications to other contracts only when the COs on both the current contract and the receiving contract authorize the transfer.

b. Reporting.

(i) EPA. Government property shall be reported in accordance with FAR 52.245-1. The Standard Form, SF 1428, Inventory Disposal Schedule, provides the format for reporting excess Government property. Instructions for completing and when to use the form may be found at FAR 52.245-1(j). Forward the completed SF 1428 to the CPC. The SF 1428 is available at <http://www.arnet.gov/far/current/html/FormsStandard54.html>. Superfund property must contain a Superfund notification and the following language must be displayed on the form: "Note to CO: Reimbursement to the EPA Superfund is required."

(ii) DCMA. If the EPA contract has been re-delegated to DCMA, the excess items will be entered into the Plant Clearance Automated Reutilization Screening System (PCARSS). Access and

information pertaining to this system may be addressed to the DCMA Plant Clearance Officer (PLCO).

c. Disposition Instructions.

(i) Retention. When Government property is identified as excess, the CO may direct the contractor in writing to retain all or part of the excess Government Property under the current contract for possible future requirements.

(ii) Return to EPA. When Government property is identified as excess, the CO may direct the contractor in writing to return those items to EPA inventory. The contractor shall ship/deliver the property in accordance with the instructions provided by the CO.

(iii) Transfer. When Government property is identified as excess, the CO may direct the contractor in writing to transfer the property to another EPA contractor. The contractor shall transfer the property by shipping it in accordance with the instructions provided by the CO. To effect transfer of accountability, the contractor shall provide the recipient of the property with the applicable data elements set forth in Attachment 1 of this clause.

(iv) Sale. If GSA or the DCMA PLCO conducts a sale of the excess Government property, the contractor shall allow prospective bidders access to property offered for sale.

(v) Abandonment. Abandoned property must be disposed of in a manner that does not endanger the health and safety of the public. If the contract is delegated to DCMA and the contractor has input EPA property into the PCARSS system, the EPA Property Utilization Officer (PUO) shall notify the CO. The CO shall notify the contractor in writing of those items EPA would like to retain, have returned or transferred to another EPA contractor. The contractor shall notify the DCMA PLCO and request withdrawal of those items from the inventory schedule. The contractor shall update the Government property record to indicate the disposition of the item and to close the record. The contractor shall also obtain either a signed receipt or proof of shipment from the recipient. The contractor shall notify the CO when all actions pertaining to disposition have been completed. The contractor shall complete an EPA Property report with changes, to include supporting documentation of completed disposition actions and submit it to the CPC.

9. Decontamination. In addition to the requirements of the "Government Property" clause and prior to performing disposition of any EPA Government Property, the contractor shall certify in writing that the property is free from contamination by any hazardous or toxic substances.

10. Contract Closeout. The contractor shall complete a physical inventory of all Government property at contract completion and the results, including any discrepancies, shall be reported to the CO. If the contract is delegated to DCMA, the physical inventory report will be submitted to the EPA CO and a copy submitted to the DCMA PA. In the case of a terminated contract, the contractor shall comply with the inventory requirements set forth in the applicable termination

clause. The results of the inventory, as well as a detailed inventory listing, must be forwarded to the CO and if delegated, a copy to the DCMA PA. In order to expedite the disposal process, contractors may be required to, or may elect to submit to the CPC, an inventory schedule for disposal purposes up to six (6) months prior to contract completion. If such an inventory schedule is prepared, the contractor must indicate the earliest date that each item may be disposed. The contractor shall update all property records to show disposal action. The contractor shall notify the CO, and, if delegated, the DCMA PA, in writing, when all work has been completed under the contract and all Government property accountable to the contract has been disposed. The contractor shall complete a FINAL EPA Property report with all supporting documentation to the CPC.

Attachment 1

Required Data Element--In addition to the requirements of FAR 52.245-1(f)(vi), Reports of Government Property, the contractor is required to maintain, and report the following data elements for EPA Government property (all elements are not applicable to material):

Name and address of the administrative Contracting Officer; Name of the contractor representative; Business type; Name and address of the contract property coordinator; Superfund (Yes/No); No. of Subcontractor/Alternate Locations.

Note: For items comprising a system which is defined as, "a group of interacting items functioning as a complex whole," the contractor may maintain the record as a system noting all components of the system under the main component or maintain individual records for each item. However, for the Annual Report of Government Property, the components must be reported as a system with one total dollar amount for the system, if that system total is \$25,000 or more.

(End of clause)

G-2 EPAAR 1552.245-71 GOVERNMENT-FURNISHED DATA. (SEP 2009)

(a) The Government shall deliver to the Contractor the Government-furnished data described in the contract. If the data, suitable for its intended use, is not delivered to the Contractor, the Contracting Officer shall equitably adjust affected provisions of this contract in accordance with the "Changes" clause when:

- (1) The Contractor submits a timely written request for an equitable adjustment; and
- (2) The facts warrant an equitable adjustment.

(b) Title to Government-furnished data shall remain in the Government.

(c) The Contractor shall use the Government-furnished data only in connection with this contract.

(d) The following data will be furnished to the Contractor on or about the time indicated: To be identified in applicable Task Orders.

G-3 Local Clauses 1552.232-70 SUBMISSION OF INVOICES (DEC 2018) DEVIATION ALT I

Submission of Invoices (MAY 19)

(a) Electronic invoicing and the Invoice Processing Platform (IPP)— (1) Definitions. As used in this clause—

Contract financing payment and invoice payment are defined in Federal Acquisition Regulation (FAR) 32.001.

Electronic form means an automated system that transmits information electronically from the initiating system to all affected systems. Facsimile, email, and scanned documents are not acceptable electronic forms for submission of payment requests. However, scanned documents are acceptable when they are part of a submission of a payment request made using Invoice Processing Platform or another electronic form authorized by the Contracting Officer.

Payment request means any request for contract financing payment or invoice payment submitted by the Contractor under this contract.

(2)(i) Except as provided in paragraph (c) of this clause, the Contractor shall submit invoices using the electronic invoicing program Invoice Processing Platform (IPP), which is a secure web-based service provided by the U.S. Treasury that more efficiently manages government invoicing.

(ii) Under this contract, the following documents are required to be submitted as an attachment to the IPP invoice: (This is a fill-in for acceptable types of required documentation, such as an SF 1034 and 1035, or an invoice/self-designed form on company letterhead that contains the required information.)

(iii) The Contractor's Government Business Point of Contact (as listed in System for Award Management (SAM)) will receive enrollment instructions via email from the IPP. The Contractor must register within 3 to 5 days of receipt of such email from IPP.

(iv) Contractor assistance with enrollment can be obtained by contacting the IPP Production Helpdesk via email at IPPCustomerSupport@fiscal.treasury.gov or by telephone at (866) 973-3131.

(3) If the Contractor is unable to comply with the requirement to use IPP for submitting invoices for payment, the Contractor shall submit a waiver request in writing to the Contracting Officer. The Contractor may submit an invoice using other than IPP only when—

(i) The Contracting Officer administering the contract for payment has determined, in writing, that electronic submission would be unduly burdensome to the Contractor; and in such cases, the Contracting Officer shall modify the contract to include a copy of the Determination; or

(ii) When the Governmentwide commercial purchase card is used as the method of payment.

(4) The Contractor shall submit any non-electronic payment requests using the method or methods specified in Section G of the contract.

(5) In addition to the requirements of this clause, the Contractor shall meet the requirements of the appropriate payment clauses in this contract when submitting payment requests.

(6) Invoices submitted through IPP will be either rejected, or accepted and paid, in their entirety, and will not be paid on a partial basis.

(b) Invoice preparation. The Contractor shall prepare its invoice or request for contract financing payment in accordance with FAR 32.905 on the prescribed Government forms, or the Contractor may submit self-designed forms which contain the required information. Standard Form 1034, Public Voucher for Purchases and Services other than Personal, is prescribed for used by contractors to show the amount claimed for reimbursement. Standard Form 1035, Public Voucher for Purchases and Services other than Personal—Continuation Sheet, is prescribed for use to furnish the necessary supporting detail or additional information required by the Contracting Officer.

(c) Invoice content. (1) The Contractor shall prepare a contract level invoice or request for contract financing payment in accordance with the invoice preparation instructions. If contract work is authorized by an individual task order or delivery order (TO/DO), the invoice or request for contract financing payment shall also include a summary of the current and cumulative amounts claimed by cost element for each TO/DO and for the contract total, as well as any supporting data for each TO/DO as identified in the instructions.

(2) The invoice or request for contract financing payment shall include current and cumulative charges by major cost element such as direct labor, overhead, travel, equipment, and other direct costs. For current costs, each major cost element shall include the appropriate supporting schedule identified in the invoice preparation instructions. Cumulative charges represent the net sum of current charges by cost element for the contract period.

(d) Subcontractor charges. (1) The charges for subcontracts shall be further detailed in a supporting schedule showing the major cost elements for each subcontract.

(2) On a case-by-case basis, when needed to verify the reasonableness of subcontractor costs, the Contracting Officer may require that the contractor obtain from the subcontractor cost information in the detail set forth in paragraph (c)(2) of this section. This information should be obtained through a means which maintains subcontractor confidentiality (for example, via sealed envelopes), if the subcontractor expresses Confidential Business Information (CBI) concerns.

(e) Period of performance indication. Invoices or requests for contract financing payment must clearly indicate the period of performance for which payment is requested. Separate invoices or requests for contract financing payment are required for charges applicable to the base contract and each option period.

(f) Invoice submittal. (1) Notwithstanding the provisions of the clause of this contract at FAR 52.216-7, Allowable Cost and Payment, invoices or requests for contract financing payment shall be submitted on the 20th each month unless there has been a demonstrated need and Contracting Officer approval for more frequent billings. When submitted on a monthly basis, the period covered by invoices or requests for contractor financing payments shall be the same as the period for monthly progress reports required under this contract.

(2) If the Contracting Officer allows submissions more frequently than monthly, one submittal each month shall have the same ending period of performance as the monthly progress report.

(3) Where cumulative amounts on the monthly progress report differ from the aggregate amounts claimed in the invoice(s) or request(s) for contract financing payments covering the same period, the contractor shall provide a reconciliation of the difference as part of the payment request.

(g) EPA Invoice Preparation Instructions—SF 1034. The information which a contractor is required to submit in its Standard Form 1034 is set forth as follows:

(1) U.S. Department, Bureau, or establishment and location—Insert the names and address of the servicing finance office, unless the contract specifically provides otherwise.

(2) Date Voucher Prepared—Insert date on which the public voucher is prepared and submitted.

(3) Contract/Delivery Order Number and Date—Insert the number and date of the contract and task order or delivery order, if applicable, under which reimbursement is claimed.

(4) Requisition Number and Date—Leave blank.

(5) Voucher Number—Insert the appropriate serial number of the voucher. A separate series of consecutive numbers, beginning with Number 1, shall be used by the contractor for each new contract. For an adjustment invoice, write “[invoice number] #Adj” at the voucher number. For a final invoice, put invoice number F. For a completion invoice, put invoice number #C.

(6) Schedule Number; Paid By; Date Invoice Received—Leave blank.

(7) Discount Terms—Enter terms of discount, if applicable.

(8) Payee's Account Number—This space may be used by the contractor to record the account or job number(s) assigned to the contract or may be left blank.

(9) Payee's Name and Address—Show the name of the contractor exactly as it appears in the contract and its correct address, except when an assignment has been made by the contractor, or the right to receive payment has been restricted, as in the case of an advance account. When the right to receive payment is restricted, the type of information to be shown in this space shall be furnished by the Contracting Officer.

(10) Shipped From; To; Weight Government B/L Number—Insert for supply contracts.

(11) Date of Delivery or Service—Show the month, day and year, beginning and ending dates of incurrence of costs claimed for reimbursement. Adjustments to costs for prior periods should identify the period applicable to their incurrence, e.g., revised provisional or final indirect cost rates, award fee, etc.

(12) Articles or Services—Insert the following: “For detail, see Standard Form 1035 total amount claimed transferred from Page ___ of Standard Form 1035.” Insert “COST REIMBURSABLE—PROVISIONAL PAYMENT” or “INDEFINITE QUANTITY/INDEFINITE DELIVERY—PROVISIONAL PAYMENT” on the Interim public vouchers. Insert “COST REIMBURSABLE—COMPLETION VOUCHER” or “INDEFINITE QUANTITY/INDEFINITE DELIVERY—COMPLETION VOUCHER” on the Completion public voucher. Insert “COST REIMBURSABLE—FINAL VOUCHER” or “INDEFINITE QUANTITY/INDEFINITE DELIVERY—FINAL VOUCHER” on the final public voucher. Insert the following certification, signed by an authorized official, on the face of the Standard Form 1034:

“I certify that all payments requested are for appropriate purposes and in accordance with the agreements set forth in the contract.”

(Name of Official)

(Title)

(13) Quantity; Unit Price—Insert for supply contracts.

(14) Amount—Insert the amount claimed for the period indicated in paragraph (g)(11) of this clause.

(h) EPA Invoice Preparation Instructions—SF 1035. The information which a contractor is required to submit in its Standard Form 1035 is set forth as follows:

(1) U.S. Department, Bureau, or Establishment—Insert the name and address of the servicing finance office.

(2) Voucher Number—Insert the voucher number as shown on the Standard Form 1034.

(3) Schedule Number—Leave blank.

(4) Sheet Number—Insert the sheet number if more than one sheet is used in numerical sequence. Use as many sheets as necessary to show the information required.

(5) Number and Date of Order—Insert payee's name and address as in the Standard Form 1034.

(6) Articles or Services—Insert the contract number as in the Standard Form 1034.

(7) Amount—Insert the latest estimated cost, fee (fixed, base, or award, as applicable), total contract value, and amount and type of fee payable (as applicable).

(8) A summary of claimed current and cumulative costs and fee by major cost element—Include the rate(s) at which indirect costs are claimed and indicate the base of each by identifying the line of costs to which each is applied. The rates invoiced should be as specified in the contract or by a rate agreement negotiated by EPA's Cost and Rate Negotiation Team.

(9) Fee—The fee shall be determined in accordance with instructions appearing in the contract.

Note to paragraph (h)—Amounts claimed on vouchers must be based on records maintained by the contractor to show by major cost element the amounts claimed for reimbursement for each applicable contract. The records must be maintained based on the contractor's fiscal year and should include reconciliations of any differences between the costs incurred and amounts

claimed for reimbursement. A memorandum record reconciling the total indirect cost(s) claimed should also be maintained.

(i) Supporting Schedules for Cost Reimbursement Contracts. The following backup information is required as an attachment to the invoice as shown by category of cost:

(1) Direct Labor—Identify the number of hours (by contractor labor category and total) and the total loaded direct labor hours billed for the period in the invoice.

(2) Indirect Cost Rates—Identify by cost center, the indirect cost rate, the period, and the cost base to which it is applied.

(3) Subcontracts—Identify the major cost elements for each subcontract.

(4) Other Direct Costs—When the cost for an individual cost (e.g., photocopying, material and supplies, telephone usage) exceeds \$1,000 per the invoice period, provide a detailed explanation for that cost category.

(5) Contractor Acquired Equipment (if authorized by the contract)—Identify by item the quantities, unit prices, and total dollars billed.

(6) Contractor Acquired Software (if authorized by the contract)—Identify by item the quantities, unit prices, and total dollars billed.

(7) Travel—When travel costs exceed \$2,000 per invoice period, identify by trip, the number of travelers, the duration of travel, the point of origin, destination, purpose of trip, transportation by unit price, per diem rates on daily basis and total dollars billed. Detailed reporting is not required for local travel. The manner of breakdown, e.g., task order/delivery order basis with/without separate program management, contract period will be specified in the contract instructions.

Note to paragraph (i)—Any costs requiring advance consent by the Contracting Officer will be considered improper and will be disallowed, if claimed prior to receipt of Contracting Officer consent. Include the total cost claimed for the current and cumulative-to-date periods. After the total amount claimed, provide summary dollar amounts disallowed on the contract as of the date of the invoice. Also include an explanation of the changes in cumulative costs disallowed by addressing each adjustment in terms of: Voucher number, date, dollar amount, source, and reason for the adjustment. Disallowed costs should be identified in unallowable accounts in the contractor's accounting system.

(j) Supporting Schedules for Time and Materials Contracts. The following backup information is required as an attachment to the invoice as shown by category of cost:

(1) Direct Labor—Identify the number of hours (by contractor labor category and total) and the total direct labor hours billed for the period of the invoice.

(2) Subcontracts—Identify the major cost elements for each subcontract.

(3) Other Direct Costs—When the cost for an individual cost (e.g., photocopying, material and supplies, telephone usage) exceeds \$1,000 per the invoice period, provide a detailed explanation for that cost category.

(4) Indirect Cost Rates—Identify by cost center, the indirect cost rate, the period, and the cost base to which it is applied.

(5) Contractor Acquired Equipment—Identify by item the quantities, unit prices, and total dollars billed.

(6) Contractor Acquired Software—Identify by item the quantities, unit prices, and total dollars billed.

(7) Travel—When travel costs exceed \$2,000 per invoice period, identify by trip, the number of travelers, the duration of travel, the point of origin, destination, purpose of trip, transportation by unit price, per diem rates on daily basis and total dollars billed. Detailed reporting is not required for local travel. The manner of breakdown, e.g., task order/delivery order basis with/without separate program management, contract period will be specified in the contract instructions.

Note to paragraph (j)—Any costs requiring advance consent by the Contracting Officer will be considered improper and will be disallowed, if claimed prior to receipt of Contracting Officer consent. Include the total cost claimed for the current and cumulative-to-date periods. After the total amount claimed, provide summary dollar amounts disallowed on the contract as of the date of the invoice. Also include an explanation of the changes in cumulative costs disallowed by addressing each adjustment in terms of: Voucher number, date, dollar amount, source, and reason for the adjustment. Disallowed costs should be identified in unallowable accounts in the contractor's accounting system.

(k) Adjustment vouchers. Adjustment vouchers should be submitted if finalized indirect rates were received but the rates are not for the entire period of performance. For example, the base period of performance is for a calendar year but your indirect rates are by fiscal year. Hence, only part of the base period can be adjusted for the applicable final indirect rates. These invoices should be annotated with “adj” after the invoice number.

(l) Final vouchers. Final Vouchers shall be submitted if finalized rates have been received for the entire period of performance. For example, the base period of performance is for a calendar year but your indirect rates are by fiscal year. You have received finalized rates for the entire base period that encompass both fiscal years that cover the base period. In accordance with FAR 52.216-7, these invoices shall be submitted within 60 days after settlement of final indirect cost rates. They should be annotated with the word “Final” or “F” after the invoice number. Due to system limitations, the invoice number cannot be more than 11 characters to include spaces.

(m) Completion vouchers. In accordance with FAR 52.216-7(d)(5), a completion voucher shall be submitted within 120 days (or longer if approved in writing by the Contracting Officer) after settlement of the final annual indirect cost rates for all years of a physically complete contract. The voucher shall reflect the settled amounts and rates. It shall include settled subcontract amounts and rates. The prime contractor is responsible for settling subcontractor amounts and rates included in the completion invoice. Since EPA's invoices must be on a period of

performance basis, the contractor shall have a completion invoice for each year of the period of performance. This voucher must be submitted to the Contracting Officer for review and approval before final payment can be made on the contract. The Contracting Officer may request an audit of the completion vouchers before final payment is made. In addition, once approved, the Contracting Officer will request the appropriate closeout paperwork for the contract. For contracts separately invoiced by delivery or task order, provide a schedule showing final total costs claimed by delivery or task order and in total for the contract. In addition to the completion voucher, the contractor must submit the Contractor's Release; Assignee's Release, if applicable; the Contractor's Assignment of Refunds, Rebates, Credits and other Amounts; the Assignee's Assignment of Refunds, Rebates, Credits and other Amounts, if applicable; and the Contractor's Affidavit of Waiver of Lien, when required by the contract.

G-4 Local Clauses EPA-G-42-101 CONTRACT ADMINISTRATION REPRESENTATIVES

Contract-Level Contracting Officers Representatives (CORs)/Project Officers for this contract are as follows:

Ruth Corn (Corn.Ruth@epa.gov)
Natalie Koch (Koch.Natalie@epa.gov)

Contracting Officials responsible for administering this contract are as follows:

Andre Dehne (dehne.andrea@epa.gov)

G-5 Local Clauses EPA-G-45-101 DESIGNATION OF PROPERTY ADMINISTRATOR

The property administrator for this contract is as follows:

Ms. Tina Marie Marshall, U.S. EPA, 1200 Pennsylvania Avenue, NW, M/C 3204R, Washington, DC 20460, (202) 564-1095, marshall.tinamarie@epa.gov

The property administrator is the Contracting Officer's designated representative on property matters. The Contractor shall furnish all required information on property to the property administrator.

SECTION H - Special Contract Requirements

H-1 EPAAR 1552.203-71 DISPLAY OF EPA OFFICE OF INSPECTOR GENERAL HOTLINE POSTER. (JUL 2016)

(a) For EPA contracts valued at \$1,000,000 or more including all contract options, the contractor shall prominently display EPA Office of Inspector General Hotline posters in contractor facilities where the work is performed under the contract.

(b) Office of Inspector General hotline posters may be obtained from the EPA Office of Inspector General, ATTN: OIG Hotline (2443), 1200 Pennsylvania Avenue NW., Washington, DC 20460, or by accessing the OIG Web site at: <http://www.epa.gov/oig/hotline.html>.

(c) The Contractor need not comply with paragraph (a) of this clause if it has established a mechanism, such as a hotline, by which employees may report suspected instances of improper conduct, and has provided instructions that encourage employees to make such reports.

(End of clause)

H-2 EPAAR 1552.208-70 PRINTING. (SEP 2012)

(a) Definitions. "Printing" is the process of composition, plate making, presswork, binding and microform; or the end items produced by such processes and equipment. Printing services include newsletter production and periodicals which are prohibited under EPA contracts.

"Composition" applies to the setting of type by hot-metal casting, photo typesetting, or electronic character generating devices for the purpose of producing camera copy, negatives, a plate or image to be used in the production of printing or microform.

"Camera copy" (or "camera-ready copy") is a final document suitable for printing/duplication.

"Desktop Publishing" is a method of composition using computers with the final output or generation of a camera copy done by a color inkjet or color laser printer. This is not considered "printing." However, if the output from desktop publishing is being sent to a typesetting device (i.e., Linotronic) with camera copy being produced in either paper or negative format, these services are considered "printing."

"Microform" is any product produced in a miniaturized image format, for mass or general distribution and as a substitute for conventionally printed material. Microform services are classified as printing services and include microfiche and microfilm. The contractor may make up to two sets of microform files for archival purposes at the end of the contract period of performance.

"Duplication" means the making of copies on photocopy machines employing electrostatic, thermal, or other processes without using an intermediary such as a negative or plate.

"Requirement" means an individual photocopying task. (There may be multiple requirements under a Work Assignment or Delivery Order. Each requirement would be subject to the duplication limitation of 5,000 copies of one page or 25,000 copies of multiple pages in the aggregate per requirement).

"Incidental" means a draft and/or proofed document (not a final document) that is not prohibited from printing under EPA contracts.

(b) Prohibition. (1) The contractor shall not engage in, nor subcontract for, any printing in connection with the performance of work under this contract. Duplication of more than 5,000 copies of one page or more than 25,000 copies of multiple pages in the aggregate per requirement constitutes printing. The intent of the printing limitation is to eliminate duplication of final documents.

(2) In compliance with EPA Order 2200.4a, EPA Publication Review Procedure, the Office of Communications, Education, and Media Relations is responsible for the review of materials generated under a contract published or issued by the Agency under a contract intended for release to the public.

(c) Affirmative Requirements. (1) Unless otherwise directed by the contracting officer, the contractor shall use double-sided copying to produce any progress report, draft report or final report.

(2) Unless otherwise directed by the contracting officer, the contractor shall use recycled paper for reports delivered to the Agency which meet the minimum content standards for paper and paper products as set forth in EPA's Web site for the Comprehensive Procurement Guidelines at: <http://www.epa.gov/cpg/>.

(d) Permitted Contractor Activities. (1) The prohibitions contained in paragraph (b) do not preclude writing, editing, or preparing manuscript copy, or preparing related illustrative material to a final document (camera-ready copy) using desktop publishing.

(2) The contractor may perform a requirement involving the duplication of less than 5,000 copies of only one page, or less than 25,000 copies of multiple pages in the aggregate, using one color (black), such pages shall not exceed the maximum image size of 10 3/4 by 14 1/4 inches, or 11 by 17 paper stock. Duplication services below these thresholds are not considered printing. If performance of the contract will require duplication in excess of these thresholds, contractors must immediately notify the contracting officer in writing and a waiver must be obtained. Only the Joint Committee on Printing has the authority to grant waivers to the printing requirements. All Agency waiver requests must be coordinated with EPA's Headquarters Printing Management Team, Facilities and Services Division, and with the Office of General Counsel. Duplication services of "incidentals" in excess of the thresholds are allowable.

(3) The contractor may perform a requirement involving the multi-color duplication of no more than 100 pages in the aggregate using color copier technology, such pages shall not exceed the maximum image size of 10 3/4 by 14 1/4 inches, or 11 by 17 paper stock. Duplication services below these thresholds are not considered printing. If performance of the contract will require duplication in excess of these limits, contractors must immediately notify the contracting officer in writing and a waiver must be obtained. Only the Joint Committee on Printing has the authority to grant waivers to the printing requirements. All

Agency waiver requests must be coordinated with EPA's Headquarters Printing Management Team, Facilities and Services Division, and with the Office of General Counsel.

(4) The contractor may perform the duplication of no more than a total of 500 units of an electronic information storage device (e.g., CD-ROMs, DVDs, thumb drives 1) (including labeling and packaging) per work assignment or task order/delivery order per contract year. Duplication services below these thresholds are not considered printing. If performance of the contract will require duplication in excess of these thresholds, contractors must immediately notify the contracting officer in writing and a waiver must be obtained. Only the Joint Committee on Printing has the authority to grant waivers to the printing requirements. All Agency waiver requests must be coordinated with EPA's Headquarters Printing Management Team, Facilities and Services Division, and with the Office of General Counsel.

(e) Violations. The contractor may not engage in, nor subcontract for, any printing in connection with the performance of work under the contract. The cost of any printing services in violation of this clause will be disallowed, or not accepted by the Government.

(f) Flowdown Clause. The contractor shall include in each subcontract which may involve a requirement for any printing/duplicating/copying a provision substantially the same as this clause.

(End of clause)

H-3 EPAAR 1552.209-71 ORGANIZATIONAL CONFLICTS OF INTEREST. (MAY 1994) - ALTERNATE I (SEP 1998)

- (a) The Contractor warrants that, to the best of the Contractor's knowledge and belief, there are no relevant facts or circumstances which could give rise to an organizational conflict of interest, as defined in FAR subpart 9.5, or that the Contractor has disclosed all such relevant information.
- (b) Prior to commencement of any work, the Contractor agrees to notify the Contracting Officer immediately that, to the best of its knowledge and belief, no actual or potential conflict of interest exists or to identify to the Contracting Officer any actual or potential conflict of interest the firm may have. In emergency situations, however, work may begin but notification shall be made within five (5) working days.
- (c) The Contractor agrees that if an actual or potential organizational conflict of interest is identified during performance, the Contractor will immediately make a full disclosure in writing to the Contracting Officer. This disclosure shall include a description of actions which the Contractor has taken or proposes to take, after consultation with the Contracting Officer, to avoid, mitigate, or neutralize the actual or potential conflict of interest. The Contractor shall continue performance until notified by the Contracting Officer of any contrary action to be taken.
- (d) Remedies-The EPA may terminate this contract for convenience, in whole or in part, if it deems such termination necessary to avoid an organizational conflict of interest. If the Contractor was aware of a potential organizational conflict of interest prior to award or discovered an actual or potential conflict after award and did not disclose it or misrepresented relevant information to the Contracting officer, the Government may terminate the contract for default, debar the Contractor from Government contracting, or pursue such other remedies as may be permitted by law or this contract.

- (e) The Contractor agrees to insert in each subcontract or consultant agreement placed hereunder provisions which shall conform substantially to the language of this clause, including this paragraph, unless otherwise authorized by the contracting officer.

(End of Clause)

H-4 EPAAR 1552.209-73 NOTIFICATION OF CONFLICTS OF INTEREST REGARDING PERSONNEL. (MAY 1994) - ALTERNATE I (JAN 2015)

(a) In addition to the requirements of the contract clause entitled "Organizational Conflicts of Interest," the following provisions with regard to employee personnel performing under this contract shall apply until the earlier of the following two dates: the termination date of the affected employee(s) or the expiration date of the contract.

(b) The Contractor agrees to notify immediately the EPA Contracting Officer's Representative and the Contracting Officer of (1) any actual or potential personal conflict of interest with regard to any of its employees working on or having access to information regarding this contract, or (2) any such conflicts concerning subcontractor employees or consultants working on or having access to information regarding this contract, when such conflicts have been reported to the Contractor. A personal conflict of interest is defined as a relationship of an employee, subcontractor employee, or consultant with an entity that may impair the objectivity of the employee, subcontractor employee, or consultant in performing the contract work.

(c) The Contractor agrees to notify each Contracting Officer's Representative and Contracting Officer prior to incurring costs for that employee's work when an employee may have a personal conflict of interest. In the event that the personal conflict of interest does not become known until after performance on the contract begins, the Contractor shall immediately notify the Contracting Officer of the personal conflict of interest. The Contractor shall continue performance of this contract until notified by the Contracting Officer of the appropriate action to be taken.

(d) The Contractor agrees to insert in each subcontract or consultant agreement placed hereunder provisions which shall conform substantially to the language of this clause, including this paragraph (d), unless otherwise authorized by the Contracting Officer.

(End of clause)

H-5 EPAAR 1552.209-74 LIMITATION OF FUTURE CONTRACTING. (APR 2004) ALTERNATE V
(HEADQUARTERS SUPPORT) (APR 2004)

- (a) The parties to this contract agree that the Contractor will be restricted in its future contracting in the manner described below. Except as specifically provided in this clause, the Contractor shall be free to compete for contracts on an equal basis with other companies.
- (b) If the Contractor, under the terms of this contract, or through the performance of work pursuant to this contract, is required to develop specifications or statements of work and such specifications or statements of work are incorporated into an EPA solicitation, the Contractor shall be ineligible to perform the work described in that solicitation as a prime Contractor or subcontractor under an ensuing EPA contract.
- (c) When the contractor is required to evaluate, assess, or test a remediation technology, process, equipment, or computer oriented tool that is specifically identified in a task order, the contractor is prohibited, without the prior written approval of the Contracting Officer, from entering into business or financial relationships with individuals, organizations, PRPs or their consultants, to provide services on or in support of the specific remediation technology, process, equipment, or computer oriented tool identified in the task order. This restriction applies during the life of the contract.
- (d) The Contractor agrees in advance that if any bids/proposals are submitted for any work that would require written approval of the Contracting Officer prior to entering into a contract subject to the restrictions of this clause, then the bids/proposals are submitted at the Contractor's own risk. Therefore, no claim shall be made against the Government to recover bid/proposal costs as a direct cost whether the request for authorization to enter into the contract is denied or approved.
- (e) To the extent that the work under this contract requires access to proprietary or confidential business or financial data of other companies, and as long as such data remains proprietary or confidential, the Contractor shall protect such data from unauthorized use and disclosure.
- (f) The Contractor agrees to insert in each subcontract or consultant agreement placed hereunder, except for subcontracts or consultant agreements for nondiscretionary technical or engineering services, including treatability studies, well drilling, fence erecting, plumbing, utility hookups, security guard services, or electrical services, provisions which shall conform substantially to the language of this clause, including this paragraph (f) unless otherwise authorized by the Contracting Officer. The Contractor may request in writing that the Contracting Officer exempt from this clause a particular subcontract or consultant agreement for nondiscretionary technical or engineering services not specifically listed above, including laboratory analysis. The Contracting Officer will review and evaluate each request on a case-by-case basis before approving or disapproving the request.
- (g) If the Contractor seeks an expedited decision regarding its initial future contracting request, the Contractor may submit its request to both the Contracting Officer and the next administrative level within the Contracting Officer's organization.

(h) A review process available to the Contractor when an adverse determination is received shall consist of a request for reconsideration to the Contracting Officer or a request for review submitted to the next administrative level within the Contracting Officer's organization. An adverse determination resulting from a request for reconsideration by the Contracting Officer will not preclude the Contractor from requesting a review by the next administrative level. Either a request for review or a request for reconsideration must be submitted to the appropriate level within 30 calendar days after receipt of the initial adverse determination.

(End of clause)

H-6 EPAAR 1552.227-76 PROJECT EMPLOYEE CONFIDENTIALITY AGREEMENT. (MAY 1994) - ALTERNATE I (JAN 2015)

(a) The Contractor recognizes that Contractor employees in performing this contract may have access to data, either provided by the Government or first generated during contract performance, of a sensitive nature which should not be released to the public without Environmental Protection Agency (EPA) approval. Therefore, the Contractor agrees to obtain confidentiality agreements from all of its employees working on requirements under this contract.

(b) Such agreements shall contain provisions which stipulate that each employee agrees that the employee will not disclose, either in whole or in part, to any entity external to EPA, the Department of Justice, or the Contractor, any information or data (as defined in FAR Section 27.401) provided by the Government or first generated by the Contractor under this contract, any site-specific cost information, or any enforcement strategy without first obtaining the written permission of the EPA Contracting Officer. If a contractor, through an employee or otherwise, is subpoenaed to testify or produce documents, which could result in such disclosure, the Contractor must provide immediate advance notification to the EPA so that the EPA can authorize such disclosure or have the opportunity to take action to prevent such disclosure. Such agreements shall be effective for the life of the contract and for a period of five (5) years after completion of the contract.

(c) The EPA may terminate this contract for convenience, in whole or in part, if it deems such termination necessary to prevent the unauthorized disclosure of information to outside entities. If such a disclosure occurs without the written permission of the EPA Contracting Officer, the Government may terminate the contract, for default or convenience, or pursue other remedies as may be permitted by law or this contract.

(d) The Contractor agrees to insert in each subcontract or consultant agreement placed hereunder provisions which shall conform substantially to the language of this clause, including this paragraph (d), unless otherwise authorized by the Contracting Officer.

(End of clause)

H-7 EPAAR 1552.235-70 SCREENING BUSINESS INFORMATION FOR CLAIMS OF CONFIDENTIALITY. (APR 1984)

(a) Whenever collecting information under this contract, the Contractor agrees to comply with the following requirements:

(1) If the Contractor collects information from public sources, such as books, reports, journals, periodicals, public records, or other sources that are available to the public without restriction, the Contractor shall submit a list of these sources to the appropriate program office at the time the information is initially submitted to EPA. The Contractor shall identify the information according to source.

(2) If the Contractor collects information from a State or local Government or from a Federal agency, the Contractor shall submit a list of these sources to the appropriate program office at the time the information is initially submitted to EPA. The Contractor shall identify the information according to source.

(3) If the Contractor collects information directly from a business or from a source that represents a business or businesses, such as a trade association:

(i) Before asking for the information, the Contractor shall identify itself, explain that it is performing contractual work for the U.S. Environmental Protection Agency, identify the information that it is seeking to collect, explain what will be done with the information, and give the following notice:

(A) You may, if you desire, assert a business confidentiality claim covering part or all of the information. If you do assert a claim, the information will be disclosed by EPA only to the extent, and by means of the procedures, set forth in 40 CFR part 2, subpart B.

(B) If no such claim is made at the time this information is received by the Contractor, it may be made available to the public by the Environmental Protection Agency without further notice to you.

(C) The contractor shall, in accordance with FAR part 9, execute a written agreement regarding the limitations of the use of this information and forward a copy of the agreement to the Contracting Officer.

(ii) Upon receiving the information, the Contractor shall make a written notation that the notice set out above was given to the source, by whom, in what form, and on what date.

(iii) At the time the Contractor initially submits the information to the appropriate program office, the Contractor shall submit a list of these sources, identify the information according to source, and indicate whether the source made any confidentiality claim and the nature and extent of the claim.

(b) The Contractor shall keep all information collected from nonpublic sources confidential in accordance with the clause in this contract entitled "Treatment of Confidential Business Information" as if it had been furnished to the Contractor by EPA.

(c) The Contractor agrees to obtain the written consent of the Contracting Officer, after a written determination by the appropriate program office, prior to entering into any subcontract that will require the subcontractor to collect information. The Contractor agrees to include this clause, including this paragraph (c), and the clause entitled "Treatment of Confidential Business Information" in all subcontracts awarded pursuant to this contract that require the subcontractor collect information.

(End of clause)

H-8 EPAAR 1552.235-71 TREATMENT OF CONFIDENTIAL BUSINESS INFORMATION. (APR 1984)

(a) The Contracting Officer, after a written determination by the appropriate program office, may disclose confidential business information to the Contractor necessary to carry out the work required under this contract. The Contractor agrees to use the confidential information only under the following conditions:

(1) The Contractor and Contractor's Employees shall: (i) use the confidential information only for the purposes of carrying out the work required by the contract; (ii) not disclose the information to anyone other than EPA employees without the prior written approval of the Assistant General Counsel for Contracts and Information Law; and (iii) return to the Contracting Officer all copies of the information, and any abstracts or excerpts therefrom, upon request by the Contracting Officer, whenever the information is no longer required by the Contractor for the performance of the work required by the contract, or upon completion of the contract.

(2) The Contractor shall obtain a written agreement to honor the above limitations from each of the Contractor's employees who will have access to the information before the employee is allowed access.

(3) The Contractor agrees that these contract conditions concerning the use and disclosure of confidential information are included for the benefit of, and shall be enforceable by, both EPA and any affected business having a proprietary interest in the information.

(4) The Contractor shall not use any confidential information supplied by EPA or obtained during performance hereunder to compete with any business to which the confidential information relates.

(b) The Contractor agrees to obtain the written consent of the Contracting Officer, after a written determination by the appropriate program office, prior to entering into any subcontract that will involve the disclosure of confidential business information by the Contractor to the subcontractor. The Contractor agrees to include this clause, including this paragraph (b), in all subcontracts awarded, pursuant to this contract, that require the furnishing of confidential business information to the subcontractor.

(End of clause)

H-9 EPAAR 1552.235-73 ACCESS TO FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT CONFIDENTIAL BUSINESS INFORMATION. (APR 1996)

In order to perform duties under the contract, the Contractor will need to be authorized for access to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) confidential business information (CBI). The Contractor and all of its employees handling CBI while working under the contract will be required to follow the procedures contained in the security manual entitled "FIFRA Information Security Manual." These procedures include applying for FIFRA CBI access authorization for each individual working under the contract who will have access to FIFRA CBI, execution of confidentiality agreements, and designation by the Contractor of an individual to serve as a Document Control Officer. The Contractor will be required to abide by those clauses contained in EPAAR 1552.235-70, 1552.235-71, and 1552.235-77 that are appropriate to the activities set forth in the contract.

Until EPA has approved the Contractor's security plan, the Contractor may not be authorized for FIFRA CBI access away from EPA facilities.

(End of provision)

H-10 EPAAR 1552.235-75 ACCESS TO TOXIC SUBSTANCES CONTROL ACT CONFIDENTIAL BUSINESS INFORMATION (APR 1996).

In order to perform duties under the contract, the Contractor will need to be authorized for access to Toxic Substances Control Act (TSCA) confidential business information (CBI). The Contractor and all of its employees handling CBI while working under the contract will be required to follow the procedures contained in the security manual entitled "TSCA Confidential Business Information Security Manual." These procedures include applying for TSCA CBI access authorization for each individual working under the contract who will have access to TSCA CBI, execution of confidentiality agreements, and designation by the Contractor of an individual to serve as a Document Control Officer. The Contractor will be required to abide by those clauses contained in EPAAR 1552.235-70, 1552.235-71, and 1552.235-78 that are appropriate to the activities set forth in the contract.

Until EPA has inspected and approved the Contractor's facilities, the Contractor may not be authorized for TSCA CBI access away from EPA facilities.

(End of provision)

H-11 EPAAR 1552.235-76 TREATMENT OF CONFIDENTIAL BUSINESS INFORMATION (TSCA) (APR 1996)

(a) The Project Officer (PO) or his/her designee, after a written determination by the appropriate program office, may disclose confidential business information (CBI) to the Contractor necessary to carry out the work required under this contract. The Contractor agrees to use the CBI only under the following conditions:

(1) The Contractor and Contractor's employees shall (i) use the CBI only for the purposes of carrying out the work required by the contract; (ii) not disclose the information to anyone other than properly cleared EPA employees without the prior written approval

of the Assistant General Counsel for Information Law or his/her designee; and (iii) return the CBI to the PO or his/her designee, whenever the information is no longer required by the Contractor for performance of the work required by the contract, or upon completion of the contract.

(2) The Contractor shall obtain a written agreement to honor the above limitations from each of the Contractor's employees who will have access to the information before the employee is allowed access.

(3) The Contractor agrees that these contract conditions concerning the use and disclosure of CBI are included for the benefit of, and shall be enforceable by, both EPA and any affected businesses having a proprietary interest in the information.

(4) The Contractor shall not use any CBI supplied by EPA or obtained during performance hereunder to compete with any business to which the CBI relates.

(b) The Contractor agrees to obtain the written consent of the CO, after a written determination by the appropriate program office, prior to entering into any subcontract that will involve the disclosure of CBI by the Contractor to the subcontractor. The Contractor agrees to include this clause, including this paragraph (b), in all subcontracts awarded pursuant to this contract that require the furnishing of CBI to the subcontractor.

(End of clause)

H-12 EPAAR 1552.235-77 DATA SECURITY FOR FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT CONFIDENTIAL BUSINESS INFORMATION. (DEC 1997)

The Contractor shall handle Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) confidential business information (CBI) in accordance with the contract clause entitled "Treatment of Confidential Business Information" and "Screening Business Information for Claims of Confidentiality," the provisions set forth below, and the Contractor's approved detailed security plan.

(a) The Project Officer (PO) or his/her designee, after a written determination by the appropriate program office, may disclose FIFRA CBI to the contractor necessary to carry out the work required under this contract. The Contractor shall protect all FIFRA CBI to which it has access (including CBI used in its computer operations) in accordance with the following requirements:

(1) The Contractor and Contractor's employees shall follow the security procedures set forth in the FIFRA Information Security Manual. The manual may be obtained from the Project Officer (PO) or the Chief, Information Services Branch (ISB), Program Management and Support Division, Office of Pesticide Programs (OPP) (H7502C), U.S. Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460.

(2) The Contractor and Contractor's employees shall follow the security procedures set forth in the Contractor's security plan(s) approved by EPA.

(3) Prior to receipt of FIFRA CBI by the Contractor, the Contractor shall ensure that all employees who will be cleared for access to FIFRA CBI have been briefed on the handling, control, and security requirements set forth in the FIFRA Information Security Manual.

(4) The Contractor Document Control Officer (DCO) shall obtain a signed copy of the FIFRA "Contractor Employee Confidentiality Agreement" from each of the Contractor's employees who will have access to the information before the employee is allowed access.

(b) The Contractor agrees that these requirements concerning protection of FIFRA CBI are included for the benefit of, and shall be enforceable by, both EPA and any affected business having a proprietary interest in the information.

(c) The Contractor understands that CBI obtained by EPA under FIFRA may not be disclosed except as authorized by the Act, and that any unauthorized disclosure by the Contractor or the Contractor's employees may subject the Contractor and the Contractor's employees to the criminal penalties specified in FIFRA (7 U.S.C. 136h(f)). For purposes of this contract, the only disclosures that EPA authorizes the Contractor to make are those set forth in the clause entitled "Treatment of Confidential Business Information."

(d) The Contractor agrees to include the provisions of this clause, including this paragraph (d), in all subcontracts awarded pursuant to this contract that require the furnishing of CBI to the subcontractor.

(e) At the request of EPA or at the end of the contract, the Contractor shall return to the EPA PO or his/her designee all documents, logs, and magnetic media which contain FIFRA CBI. In addition, each Contractor employee who has received FIFRA CBI clearance will sign a "Confidentiality Agreement for Contractor Employees Upon Relinquishing FIFRA CBI Access Authority." The Contractor DCO will also forward those agreements to the EPA PO or his/her designee, with a copy to the CO, at the end of the contract.

(f) If, subsequent to the date of this contract, the Government changes the security requirements, the CO shall equitably adjust affected provisions of this contract, in accordance with the "Changes" clause when:

(1) The Contractor submits a timely written request for an equitable adjustment; and

(2) The facts warrant an equitable adjustment.

(End of clause)

H-13 EPAAR 1552.235-78 DATA SECURITY FOR TOXIC SUBSTANCES CONTROL ACT CONFIDENTIAL BUSINESS INFORMATION (DEC 1997)

The Contractor shall handle Toxic Substances Control Act (TSCA) confidential business information (CBI) in accordance with the contract clause entitled "Treatment of Confidential Business Information" and "Screening Business Information for Claims of Confidentiality."

(a) The Project Officer (PO) or his/her designee, after a written determination by the appropriate program office, may disclose TSCA CBI to the contractor necessary to carry out the work required under this contract. The Contractor shall protect all TSCA CBI to which it has access (including CBI used in its computer operations) in accordance with the following requirements:

(1) The Contractor and Contractor's employees shall follow the security procedures set forth in the TSCA CBI Security Manual. The manual may be obtained from the Director, Information Management Division (IMD), Office of Pollution Prevention and Toxics (OPPT), U.S. Environmental Protection Agency (EPA), 1200 Pennsylvania Ave., NW., Washington, DC 20460. Prior to receipt of TSCA CBI by the Contractor, the Contractor shall ensure that all employees who will be cleared for access to TSCA CBI have been briefed on the handling, control, and security requirements set forth in the TSCA CBI Security Manual.

(2) The Contractor shall permit access to and inspection of the Contractor's facilities in use under this contract by representatives of EPA's Assistant Administrator for Administration and Resources Management, and the TSCA Security Staff in the OPPT, or by the EPA Project Officer.

(3) The Contractor Document Control Officer (DCO) shall obtain a signed copy of EPA Form 7740-6, "TSCA CBI Access Request, Agreement, and Approval," from each of the Contractor's employees who will have access to the information before the employee is allowed access. In addition, the Contractor shall obtain from each employee who will be cleared for TSCA CBI access all information required by EPA or the U.S. Office of Personnel Management for EPA to conduct a Minimum Background Investigation.

(b) The Contractor agrees that these requirements concerning protection of TSCA CBI are included for the benefit of, and shall be enforceable by, both EPA and any affected business having a proprietary interest in the information.

(c) The Contractor understands that CBI obtained by EPA under TSCA may not be disclosed except as authorized by the Act, and that any unauthorized disclosure by the Contractor or the

Contractor's employees may subject the Contractor and the Contractor's employees to the criminal penalties specified in TSCA (15 U.S.C. 2613(d)). For purposes of this contract, the only disclosures that EPA authorizes the Contractor to make are those set forth in the clause entitled "Treatment of Confidential Business Information."

(d) The Contractor agrees to include the provisions of this clause, including this paragraph (d), in all subcontracts awarded pursuant to this contract that require the furnishing of CBI to the subcontractor.

(e) At the request of EPA or at the end of the contract, the Contractor shall return to the EPA PO or his/her designee, all documents, logs, and magnetic media which contain TSCA CBI. In addition, each Contractor employee who has received TSCA CBI clearance will sign EPA Form 7740-18, "Confidentiality Agreement for Contractor Employees Upon Relinquishing TSCA CBI Access Authority." The Contractor DCO will also forward those agreements to the EPA OPPT/IMD, with a copy to the CO, at the end of the contract.

(f) If, subsequent to the date of this contract, the Government changes the security requirements, the CO shall equitably adjust affected provisions of this contract, in accordance with the "Changes" clause, when:

(1) The Contractor submits a timely written request for an equitable adjustment; and,

(2) The facts warrant an equitable adjustment.

(End of clause)

H-14 EPAAR 1552.235-79 RELEASE OF CONTRACTOR CONFIDENTIAL BUSINESS INFORMATION. (DEC 2018)

(a) The Environmental Protection Agency (EPA) may find it necessary to release information submitted by the Contractor either in response to this solicitation or pursuant to the provisions of this contract, to individuals not employed by EPA. Business information that is ordinarily entitled to confidential treatment under existing Agency regulations (40 CFR Part 2) may be included in the information released to these individuals. Accordingly, by submission of this proposal or signature on this contract or

other contracts, the Contractor hereby consents to a limited release of its confidential business information (CBI).

(b) Possible circumstances where the Agency may release the Contractor's CBI include, but are not limited to the following:

(1) To other Agency contractors tasked with assisting the Agency in the recovery of Federal funds expended pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Sec. 9607, as amended, (CERCLA or Superfund);

(2) To the U.S. Department of Justice (DOJ) and contractors employed by DOJ for use in advising the Agency and representing the Agency in procedures for the recovery of Superfund expenditures;

(3) To parties liable, or potentially liable, for costs under CERCLA Sec. 107 (42 U.S.C. Sec. 9607), et al, and their insurers (Potentially Responsible Parties) for purposes of facilitating settlement or litigation of claims against such parties;

(4) To other Agency contractors who, for purposes of performing the work required under the respective contracts, require access to information the Agency obtained under the Clean Air Act (42 U.S.C. 7401 et seq.); the Federal Water Pollution Control Act (33 U.S.C.1251 et seq.); the Safe Drinking Water Act (42 U.S.C. 300f et seq.); the Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. 136 et seq.); the Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.); the Toxic Substances Control Act (15 U.S.C. 2601 et seq.); or the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601 et seq.);

(5) To other Agency contractors tasked with assisting the Agency in handling and processing information and documents in the administration of Agency contracts, such as providing both preaward and post award audit support and specialized technical support to the Agency's technical evaluation panels;

(6) To employees of grantees working at EPA under the Senior Environmental Employment (SEE) Program;

(7) To Speaker of the House, President of the Senate, or Chairman of a Committee or Subcommittee;

(8) To entities such as the General Accounting Office, boards of contract appeals, and the Courts in the resolution of solicitation or contract protests and disputes;

(9) To Agency contractor employees engaged in information systems analysis, development, operation, and maintenance, including performing data processing and management functions for the Agency; and

(10) Pursuant to a court order or court-supervised agreement.

(c) The Agency recognizes an obligation to protect the contractor from competitive harm that may result from the release of such information to a competitor. (See also the clauses in this document entitled "Screening Business Information for Claims of Confidentiality" and "Treatment of Confidential Business Information.") Except where otherwise provided by law, the Agency will permit the release of CBI under subparagraphs (1), (3), (4), (5), (6), or (9) only pursuant to a confidentiality agreement.

(d) With respect to contractors, 1552.235-71 will be used as the confidentiality agreement. With respect to Potentially Responsible Parties, such confidentiality agreements may permit further disclosure to other entities where necessary to further settlement or litigation of claims under CERCLA. Such entities include, but are not limited to accounting firms and technical experts able to analyze the information, provided that they also agree to be bound by an appropriate confidentiality agreement.

(e) This clause does not authorize the Agency to release the Contractor's CBI to the public pursuant to a request filed under the Freedom of Information Act.

(f) The Contractor agrees to include this clause, including this paragraph (f), in all subcontracts at all levels awarded pursuant to this contract that require the furnishing of confidential business information by the subcontractor.

(End of clause)

H-15 EPAAR 1552.235-80 ACCESS TO CONFIDENTIAL BUSINESS INFORMATION. (OCT 2000)

It is not anticipated that it will be necessary for the contractor to have access to confidential business information (CBI) during the performance of tasks required under this contract. However, the following applies to any and all tasks under which the contractor will or may have access to CBI:

The contractor shall not have access to CBI submitted to EPA under any authority until the contractor obtains from the Project Officer a certification that the EPA has followed all necessary procedures under 40 CFR part 2, subpart B (and any other applicable procedures), including providing, where necessary, prior notice to the submitters of disclosure to the contractor.

(End of clause)

H-16 EPAAR 1552.237-70 CONTRACT PUBLICATION REVIEW PROCEDURES. (APR 1984)

(a) Material generated under this contract intended for release to the public is subject to the Agency's publication review process in accordance with the EPA Order on this subject and the following.

(b) Except as indicated in paragraph (c) of this contract, the Contractor shall not independently publish or print material generated under this contract until after completion of the EPA review process. The Contracting Officer's Representative will notify the Contractor of review completion within 60 calendar days after the Contractor's transmittal to the Contracting Officer's Representative of material generated under this contract. If the Contractor does not receive Contracting Officer's Representative notification within this period, the Contractor shall immediately notify the Contracting Officer in writing.

(c) The Contractor may publish, in a scientific journal, material resulting directly or indirectly from work performed under this contract, subject to the following:

(1) The Contractor shall submit to the Contracting Officer and the Contracting Officer's Representative, at least 30 days prior to publication, a copy of any paper, article, or other dissemination of information intended for publication.

(2) The Contractor shall include the following statement in a journal article which has not been subjected to EPA review: "Although the research described in this article has been funded wholly or in part by the United States Environmental Protection Agency contract (number) to (Name of Contractor), it has not been subject to the Agency's review and therefore does not necessarily reflect the views of the Agency, and no official endorsement should be inferred."

(3) Following publication of the journal article, the Contractor shall submit five copies of the journal article to the Contracting Officer's Representative, and one copy to the Contracting Officer.

(d) If the Government has completed the review process and agreed that the contract material may be attributed to EPA, the Contractor shall include the following statement in the document:

This material has been funded wholly or in part by the United States Environmental Protection Agency under contract (number) to (name). It has been subject to the Agency's review, and it has been approved for publication as an EPA document. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

(e) If the Government has completed the review process, but decides not to publish the material, the Contractor may independently publish and distribute the material for its own use and its own expense, and shall include the following statement in any independent publication:

Although the information described in this article has been funded wholly or in part by the United States Environmental Protection Agency under contract (number) to (name), it does not necessarily reflect the views of the Agency and no official endorsement should be inferred.

(End of clause)

H-17 EPAAR 1552.237-71 TECHNICAL DIRECTION. (AUG 2009)

(a) Definitions.

Contracting officer technical representative (COTR), means an individual appointed by the contracting officer in accordance with Agency procedures to perform specific technical and administrative functions.

Task order, as used in this clause, means work assignment, delivery order, or any other document issued by the contracting officer to order work under a service contract.

(b) The Contracting Officer's Representative(s) may provide technical direction on contract or work request performance. Technical direction includes:

- (1) Instruction to the contractor that approves approaches, solutions, designs, or refinements; fills in details; completes the general descriptions of work shifts emphasis among work areas or tasks; and

- (2) Evaluation and acceptance of reports or other deliverables.

(c) Technical direction must be within the scope of work of the contract and any task order there under. The Contracting Officer's Representative(s) does not have the authority to issue technical direction which:

- (1) Requires additional work outside the scope of the contract or task order;

- (2) Constitutes a change as defined in the "Changes" clause;

- (3) Causes an increase or decrease in the estimated cost of the contract or task order;

- (4) Alters the period of performance of the contract or task order; or

- (5) Changes any of the other terms or conditions of the contract or task order.

(d) Technical direction will be issued in writing or confirmed in writing within five (5) days after oral issuance. The contracting officer will be copied on any technical direction issued by the Contracting Officer's Representative.

(e) If, in the contractor's opinion, any instruction or direction by the Contracting Officer's Representative(s) falls within any of the categories defined in paragraph (c) of the clause, the contractor shall not proceed but shall notify the contracting officer in writing within 3 days after receiving it and shall request that the contracting officer take appropriate action as described in this paragraph. Upon receiving this notification, the contracting officer shall:

- (1) Advise the contractor in writing as soon as practicable, but no later than 30 days after receipt of the contractor's notification, that the technical direction is within the scope of the contract effort and does not constitute a change under the "Changes" clause of the contract;

- (2) Advise the contractor within a reasonable time that the government will issue a written modification to the contract; or

- (3) Advise the contractor that the technical direction is outside the scope of the contract and is thereby rescinded.

(f) A failure of the contractor and contracting officer to agree as to whether the technical direction is within the scope of the contract, or a failure to agree upon the contract action to be taken with respect thereto, shall be subject to the provisions of the clause entitled "Disputes" in this contract.

(g) Any action(s) taken by the contractor, in response to any direction given by any person acting on behalf of the government or any government official other than the contracting officer or the Contracting Officer's Representative, shall be at the contractor's risk.

(End of clause)

H-18 EPAAR 1552.237-72 KEY PERSONNEL. (APR 1984)

(a) The Contractor shall assign to this contract the following key personnel:

(b) (4)

(b) During the first ninety (90) days of performance, the Contractor shall make no substitutions of key personnel unless the substitution is necessitated by illness, death, or termination of employment. The Contractor shall notify the Contracting Officer within 15 calendar days after the occurrence of any of these events and provide the information required by paragraph (c) of this clause. After the initial 90-day period, the Contractor shall submit the information required by paragraph (c) to the Contracting Officer at least 15 days prior to making any permanent substitutions.

(c) The Contractor shall provide a detailed explanation of the circumstances necessitating the proposed substitutions, complete resumes for the proposed substitutes, and any additional information requested by the Contracting Officer. Proposed substitutes should have comparable qualifications to those of the persons being replaced. The Contracting Officer will notify the Contractor within 15 calendar days after receipt of all required information of the decision on substitutions. This clause will be modified to reflect any approved changes of key personnel.

(End of clause)

H-19 EPAAR 1552.237-75 PAPERWORK REDUCTION ACT. (APR 1984)

If it is established at award or subsequently becomes a contractual requirement to collect identical information from ten (10) or more public respondents, the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 et seq. applies. In that event, the Contractor shall not take any action to

solicit information from any of the public respondents until notified in writing by the Contracting officer that the required Office of Management and Budget (OMB) final clearance was received.

(End of clause)

H-20 EPAAR 1552.237-76 GOVERNMENT-CONTRACTOR RELATIONS. (JUN 1999)

(a) The Government and the Contractor understand and agree that the services to be delivered under this contract by the contractor to the Government are non-personal services and the parties recognize and agree that no employer-employee relationship exists or will exist under the contract between the Government and the Contractor's personnel. It is, therefore, in the best interest of the Government to afford both parties a full understanding of their respective obligations.

(b) Contractor personnel under this contract shall not:

(1) Be placed in a position where they are under the supervision, direction, or evaluation of a Government employee.

(2) Be placed in a position of command, supervision, administration or control over Government personnel, or over personnel of other Contractors under other EPA contracts, or become a part of the Government organization.

(3) Be used in administration or supervision of Government procurement activities.

(c) Employee relationship. (1) The services to be performed under this contract do not require the Contractor or his/her personnel to exercise personal judgment and discretion on behalf of the Government. Rather the Contractor's personnel will act and exercise personal judgment and discretion on behalf of the Contractor.

(2) Rules, regulations, directives, and requirements that are issued by the U.S. Environmental Protection Agency under its responsibility for good order, administration, and security are applicable to all personnel who enter the Government installation or who travel on Government transportation. This is not to be construed or interpreted to establish any degree of Government control that is inconsistent with a non-personal services contract.

(d) Inapplicability of employee benefits. This contract does not create an employer-employee relationship. Accordingly, entitlements and benefits applicable to such relationships do not apply.

(1) Payments by the Government under this contract are not subject to Federal income tax withholdings.

(2) Payments by the Government under this contract are not subject to the Federal Insurance Contributions Act.

(3) The Contractor is not entitled to unemployment compensation benefits under the Social Security Act, as amended, by virtue of performance of this contract.

(4) The Contractor is not entitled to workman's compensation benefits by virtue of this contract.

(5) The entire consideration and benefits to the Contractor for performance of this contract is contained in the provisions for payment under this contract.

(e) Notice. It is the Contractor's, as well as, the Government's responsibility to monitor contract activities and notify the Contracting Officer if the Contractor believes that the intent of this clause has been or may be violated.

(1) The Contractor should notify the Contracting Officer in writing promptly, within 3 (to be negotiated and inserted into the basic contract at contract award) calendar days from the date of any incident that the Contractor considers to constitute a violation of this clause. The notice should include the date, nature and circumstance of the conduct, the name, function and activity of each Government employee or Contractor official or employee involved or knowledgeable about such conduct, identify any documents or substance of any oral communication involved in the conduct, and the estimate in time by which the Government must respond to this notice to minimize cost, delay or disruption of performance.

(2) The Contracting Officer will promptly, within 7 (to be negotiated and inserted into the basic contract at contract award) calendar days after receipt of notice, respond to the notice in writing. In responding, the Contracting Officer will either:

(i) Confirm that the conduct is in violation and when necessary direct the mode of further performance,

(ii) Countermand any communication regarded as a violation,

(iii) Deny that the conduct constitutes a violation and when necessary direct the mode of further performance; or

(iv) In the event the notice is inadequate to make a decision, advise the Contractor what additional information is required, and establish the date by which it should be furnished by the Contractor and the date thereafter by which the Government will respond.

(End of clause)

H-21 Local Clauses EPA-H-07-102 IDENTIFICATION OF ON-SITE CONTRACTOR EMPLOYEES

All Contractor, subcontractor, and consultant personnel shall wear prominently displayed identification badges at all times when performing work on EPA property or attending meetings in the performance of this contract. The badge shall contain the individual's name, the company name and logo. When participating in such meetings (e.g., as a speaker, panel member), those individuals in Contractor employ must supplement physical identification (e.g., badges, place markers) with verbal announcements so that it is clear to the assembled group that they are employees of the Contractor, not Agency staff members. In addition, when working on EPA property, all contractor, subcontractor, and consultant personnel shall have signs visible on their desks or at their work sites that clearly state that they are not EPA employees.

H-22 Local Clauses EPA-H-07-103 NOTICE REGARDING PROHIBITED CONTRACTOR ACTIVITIES ON ENVIRONMENTAL PROTECTION AGENCY (EPA CONTRACTS)

The Contractor shall not perform any of the following activities on behalf of EPA in connection with this contract:

1. The actual preparation of Congressional testimony.
2. The interviewing or hiring of individuals for employment at EPA.
3. Developing and/or writing of Position Descriptions and Performance Standards.
4. The actual determination of Agency policy.
5. Participating as a voting member on a Performance Evaluation Board; participating in and/or attending Award Fee meetings.
6. Preparing Award Fee Letters, even under typing services contracts.
7. The actual preparation of Award Fee Plans.
8. The preparation of documents on EPA Letterhead other than routine administrative correspondence.
9. Reviewing vouchers and invoices for the purposes of determining whether costs, hours, and work performed are reasonable.
10. The preparation of Statements of Work, Work Assignments, Technical Direction Documents, Delivery Orders, or any other work issuance document under a contract that the contractor is performing or may perform. Such a work issuance document, prepared by an EPA prime contractor under an EPA prime contract for its subcontractor, is exempt from this prohibition.
11. The actual preparation of responses to audit reports from the Inspector General, General Accounting Office, or other auditing entities.

12. Preparing responses to Congressional correspondence.
13. The actual preparation of responses to Freedom of Information Act requests, other than routine, non judgmental correspondence.
14. Any contract which authorizes a contractor to represent itself as EPA to outside parties.
15. Conducting administrative hearings.
16. Reviewing findings concerning the eligibility of EPA employees for security clearances.
17. The actual preparation of an office's official budget request.

H-23 Local Clauses EPA-H-15-101 RELEASE OF COST OR PRICING PROPOSALS OUTSIDE THE GOVERNMENT FOR AUDIT

Cost or pricing proposals submitted in response to this solicitation may be released outside the Government for audit purposes regardless of whether information contained in such proposals has been claimed or determined to be business confidential. If an outside audit is obtained, the non-Government auditor shall use the information only for audit purposes; shall not disclose any information in the proposals to anyone other than authorized EPA employees without the prior written approval of the Assistant General Counsel responsible for information law matters; and shall return all copies of proposals, as well as any abstracts, to the Government upon completion of the audit. The non-Government auditor shall obtain a written agreement from each of its employees with access to the proposals to honor these limitations prior to allowing the employee access.

H-24 Local Clauses EPA-H-23-101 ENVIRONMENTALLY PREFERABLE PRACTICES

The contractor shall, to the greatest extent practicable, utilize environmentally preferable practices in its course of business. "Environmentally preferable" is defined as products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service. Consideration of environmentally preferable practices must be consistent with price, performance, availability, and safety conditions.

H-25 Local Clauses EPA-H-27-101 DATA

Upon receipt of all data provided to the Government by the contractor under this paragraph, the Government shall acknowledge in writing to the contractor the receipt of all confidential or other data.

(b) With regard to all copies of data specifically requested by the Government and supplied in response thereto by the contractor under the contract clause entitled "Additional Data Requirements," the contractor may, pursuant to said clause, be entitled to an equitable

adjustment to cover the cost of collecting, preparing, editing, duplicating, assembling, and shipping the data requested.

(c) The Contractor may be required to turn over or provide to the Government any of the following:

1. Financial, administrative, cost and pricing and management data, or other information incidental to contract administration, pursuant to the clause entitled "Rights in Data-General." Such financial, cost or pricing data does not refer to site-specific cost records which are necessary to substantiate cost recovery actions.
2. Contractual agreements for supplies or services. (This exclusion does not apply to: 1) data resulting from such services, or 2) subcontracts issued in order to support site activity which are reimbursed through this contract.)
3. Contractor and personnel performance ratings and evaluations.
4. Data previously developed by parties other than the contractor which was acquired independently of this contract, or acquired by the contractor prior to this contract under conditions restricting the contractor's right to such data. (d) The contractor shall deliver to the OSC, within ninety (90) calendar days after the completion of the task order period of performance, all site-related data including, but not limited to: reference materials, source lists, field notes, log books, chemical data, maps, photographs, and other site-specific documents which are necessary to substantiate cost recovery actions.

H-26 Local Clauses EPA-H-27-102 CONFIDENTIALITY OF INFORMATION

Any data that is generated or obtained during contract performance shall be considered confidential, and shall not be disclosed to anyone other than Environmental Protection Agency employees without the prior written approval of the Contracting Officer. Nor shall any such data be used for any other purpose except in connection with this contract. Any data generated or obtained during contract performance shall be delivered to the Government at the request of the Contracting Officer.

H-27 Local Clauses EPA-H-27-103 APPLICATION OF RIGHTS IN DATA - SPECIAL WORKS CLAUSE

The Rights in Data--Special Works clause (FAR 52.227-17) shall apply to work assignments or task orders "...that are primarily for the production or compilation of data (other than limited rights data or restricted computer software) for the Government's own use..." or when the Contracting Officer determines that there is a specific need to limit data distribution first produced under a particular work assignment or task order. The Rights in Data--Special Works clause (FAR 52.227-17) shall apply to work assignments or task orders which are included in the examples set forth in FAR 27.405(a)(1) and also to other work assignments or task orders specifically identified by the Contracting Officer.

H-28 Local Clauses EPA-H-28-102 MINIMUM INSURANCE REQUIREMENTS

As described in FAR 52.228-7, the following are the minimum amounts of insurance required under the contract:

Workers compensation and employer's liability- \$1,000,000

Comprehensive general liability- \$1,000,000

Comprehensive automobile liability- \$1,000,000

H-29 Local Clauses EPA-H-28-106 INSURANCE-WORK ON A GOVERNMENT INSTALLATION

The Contractor's insurance requirements of Clause 52.228-5, Insurance--Work on a Government Installation (JAN 1997), shall be as follows:

At a minimum, the Contractor shall procure and maintain the following types and amounts of insurance:

- (1) Workmen's compensation and occupational disease insurance in amounts sufficient to satisfy Federal and State laws;
- (2) Employer's liability insurance of at least \$100,000, except in States with exclusive or monopolistic funds that do not permit workers' compensation to be written by private carriers;
- (3) General liability insurance for bodily injury liability coverage written on the comprehensive form of policy of at least \$500,000 per occurrence; and
- (4) Automobile liability insurance written on the comprehensive form of policy providing for bodily injury and property damage liability covering the operation of all automobiles used in connection with performance of the contract of at least \$200,000 per person and \$500,000 per occurrence for bodily injury and \$20,000 per occurrence for property damage. The amount of liability coverage on other policies shall be commensurate with any legal requirements of the locality and sufficient to meet normal and customary claims.

H-30 Local Clauses EPA-H-31-104 APPROVAL OF CONTRACTOR TRAVEL

- (a) For purposes of this clause, the term "travel" does not include local transportation. "Local Transportation" is defined as travel within 50 miles from the contractor personnel's assigned work location for performance of the contract that does not involve an overnight stay.
- (b) Any contractor travel which may be directly charged to the contract must be authorized in advance by the Contract-Level COR. This approval shall be separate from the process associated with the approval of work plans. (See paragraph (f) below).
- (c) Travel shall be authorized under this contract only when the travel is required to provide a direct service (including management oversight) or specific product to the Government that is identified in the contract's Statement of Work (and/or any applicable work assignment). The contractor shall identify the

need for travel in any work plans submitted and shall clearly identify in an accompanying narrative the relationship of the travel to the direct service required by the Government. Unless/until the Contract-Level COR specifically approves the travel proposed under a work assignment (apart from approval of the remainder of the work assignment- see paragraph (e) below), the contractor shall not perform travel. Travel and associated costs for such travel (lodging, per diem, and incidental expenses) shall be allowable only in accordance with the limitations of FAR 31.205-43 and FAR 31.205-46.

(d) Travel expenses for Federal employees shall not be an allowable cost under this contract. Travel approval shall not be rendered for any personnel (including for example State or local government officials, academicians, etc.) except for employees of the contractor, or an authorized subcontractor or consultant, who are performing a bona fide function to accomplish the Statement of Work.

(e) To obtain the approval for travel, the contractor shall submit a separate written request to the Contract-Level COR for each instance of travel for the contractor (including subcontractors/consultants) that is contemplated as a direct charge under the contract. The request shall include (at a minimum) the following information:

(1) Individual(s) traveling. Identify position and affiliation as a contractor/subcontractor employee or authorized consultant.

(2) Description of circumstances necessitating the travel. Identify the work assignment(s) that will benefit from the travel and detail the correlation of the travel to the requirements of the Statement of Work.

(3) Identify the estimated cost and include a cost breakdown. Explain why this is the most cost effective means to fulfill the contract requirements.

(f) Approval of work plans that include travel as an other direct cost element shall not be construed to mean the travel is approved; i.e., separate approval shall be obtained from the Contract-Level COR.

(g) While on travel, Contractor personnel shall clearly identify corporate affiliation at the start of any meeting. While attending EPA-sponsored meetings, conferences, symposia, etc. or while on a Government site, Contractor personnel shall wear a badge which identifies the individual as a contractor employee. Contractor personnel are strictly prohibited from acting as an official representative of the Agency at meetings, conferences, symposia, etc.

H-31 Local Clauses EPA-H-31-105 APPROVAL OF TRAINING

(a) The contractor shall provide and maintain a qualified staff of personnel to meet the requirements of the Statement of Work. The contractor shall provide training to keep its personnel abreast of changes to the science and/or technology associated with the requirements of the contract. In addition, the contractor shall ensure that its personnel receive appropriate safety, health and environmental training in accordance with Federal, state and local requirements prior to assigning any task that require such training. The contractor shall

provide documentation of such training upon the request of the Contract-Level COR and/or Contracting Officer.

The Government will not directly reimburse the cost for contractor employees to meet or maintain minimal contract requirements or to obtain and sustain an appropriate level of professionalism. Any direct charges for training will only be considered for reimbursement under this contract by compliance with the procedures set forth in paragraph (b) below.

(b) There may be occasions when it is determined to be in the best interest of the Government to reimburse the contractor for the direct cost of training associated with a requirement that represents a unique Government need unrecognized at the time of contract award. When such circumstances occur, the contractor shall secure the Contracting Officer's prior written approval by submitting a written request through the Contract-Level COR that includes, at a minimum the following information:

(1) Individual to be trained WILL BE IDENTIFIED IN APPLICABLE TASK ORDERS.

(2) Description of circumstances necessitating the training. WILL BE IDENTIFIED IN APPLICABLE TASK ORDERS.

(3) Estimated cost WILL BE IDENTIFIED IN APPLICABLE TASK ORDERS.

(c) The Contracting Officer will provide the contractor with written approval or disapproval of the request. Approval of work plans that include training as an other direct cost element shall not be construed to mean the training is approved; i.e., the contractor shall obtain written approval pursuant to the terms of this clause. Training billed as a direct cost shall be disallowed by the Contracting Officer unless approved pursuant to the terms of this clause.

H-32 Local Clauses EPA-H-31-106 EPA-SPONSORED MEETINGS, WORKSHOPS, AND/OR CONFERENCES

If this contract requires contractor support for an EPA-sponsored meeting, workshop, conference, etc., the following shall apply: EPA meetings shall be held in Federal facilities whenever available. The EPA Contract-level Contracting Officer's Representative (COR) or Work Assignment COR will determine and advise the contractor as to the availability of Federal facilities.

The allowability of travel costs for contractor personnel and experts, consultants and others hired under subcontracts to provide services to EPA shall be determined under Part 31 of the Federal Acquisition Regulation. The cost of travel, food, lodging, etc., for other conference attendees, including trainees, shall not be an allowable cost under this contract. Travel costs must be approved by the COR.

H-33 Local Clauses EPA-H-39-101 CONTRACTOR ACCESS TO EPA COMPUTERS

The personnel listed below have been authorized access to EPA computers in the performance of this contract. In the event of changes to this listing through a reassignment, resignation, termination, completion of a task or any other reason making such access unnecessary, the Contractor shall immediately notify the Contracting Officer.

(b) (4)

H-34 Local Clauses EPA-H-42-102 UTILIZATION OF FEDCONNECT FOR CONTRACT ADMINISTRATION

EPA will utilize the FedConnect® web portal in administering this contract. The contractor must be registered in FedConnect® and have access to the FedConnect website located at <https://www.fedconnect.net/Fedconnect/>. For assistance in registering or for other FedConnect® technical questions please call the FedConnect® Help Desk at (800) 899-6665 or email at fcsupport@unisonglobal.com.

End of clause

H-35 Local Clauses EPA-H-42-103 TEMPORARY CLOSURE OF EPA FACILITIES

(a)(1) The Environmental Protection Agency observes the following days as federal holidays. The term 'Federal holidays' as used in this clause shall mean only the following enumerated days and any other days hereafter declared National holidays by the President of the United States. Holidays falling on a Sunday will be observed on the following Monday. Holidays falling on a Saturday will be observed on the preceding Friday.

January 1 - New Year's Day

January - Monday - Martin Luther King Day

February - Third Monday - Washington's Birthday

May - Last Monday - Memorial Day

July 4 - Independence Day

September - First Monday - Labor Day

October - Second Monday - Columbus Day

November 11 - Veterans Day

November - Fourth Thursday - Thanksgiving Day

December 25 - Christmas Day

(2) Holiday observances of such days by Government personnel shall not be cause for additional period of performance or entitlement to compensation except as set forth in the contract. If the Contractor's personnel work on a holiday, no form of holiday or other premium compensation will be reimbursed either as a direct or indirect cost, unless authorized pursuant to an overtime clause elsewhere in the contract.

(b)(1) EPA may close an EPA facility for all or a portion of a business day as a result of:

(i) Granting administrative leave to non-essential EPA employees (e.g., unanticipated holiday);

(ii) Inclement weather;

(iii) Failure of Congress to appropriate operational funds;

(iv) Any other day designated by Federal law, Executive Order or Presidential Proclamation; or

(v) Other reason as determined by the EPA (e.g., designated furlough day for federal workers).

(2) In such cases, Contractor personnel not determined by the Contracting Officer to be excepted (e.g., not performing mission-critical round-the-clock services/tasks) who are not already on duty at the facility shall not report to the facility. Such Contractor personnel already present shall be dismissed and shall leave the facility.

(3) The Contractor agrees to continue to provide sufficient personnel to perform round-the-clock requirements of mission-critical services/tasks already in operation or scheduled for performance during the period in which EPA employees are dismissed, and shall be guided by any specific instructions of the Contracting Officer or his/her duly authorized representative. In formulating instructions the Contracting Officer or authorized representative may consider recommendations from regional/local EPA facilities management/operations staff.

(c) When Contractor personnel services are not required or provided due to closure of an EPA facility as described in paragraph (b), the contract price will be adjusted as follows:

(1) For fixed-price contracts, deductions in the Contractor's price will be computed as appropriate for the particular firm fixed price contract in question, e.g.,

(i) The deduction rate in dollars per day will be equal to the per-month contract price divided by 21 days per month. (In this example, the 21-days-per-month figure was calculated as follows:

365 calendar days/year - 10 Federal holidays - 104 Saturdays/Sundays = 251 days/12 months

= 20.92 days/month, rounded up to 21 days/month)

(ii) The deduction rate in dollars per day will be multiplied by the number of days services are not required or provided. If services are provided for portions of days, appropriate adjustment will be made by the Contracting Officer to ensure that the Contractor is compensated for services provided.

(2) For cost-reimbursement, time-and-materials and labor-hour type contracts, EPA shall not reimburse, as direct costs, salaries or wages of Contractor personnel for the period during which such personnel are dismissed from, or do not have access to, the facility.

(d) The Contractor shall place identical requirements, including this paragraph, in all subcontracts that require performance of work on-site unless otherwise instructed by the Contracting Officer.

SECTION I - Contract Clauses

I-1 FAR 52.202-1 DEFINITIONS. (NOV 2013)

I-2 FAR 52.203-3 GRATUITIES. (APR 1984)

I-3 FAR 52.203-5 COVENANT AGAINST CONTINGENT FEES. (MAY 2014)

I-4 FAR 52.203-6 RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT. (SEP 2006)

I-5 FAR 52.203-7 ANTI-KICKBACK PROCEDURES. (MAY 2014)

I-6 FAR 52.203-8 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY. (MAY 2014)

I-7 FAR 52.203-10 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY. (MAY 2014)

I-8 FAR 52.203-12 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS. (OCT 2010)

I-9 FAR 52.203-13 CONTRACTOR CODE OF BUSINESS ETHICS AND CONDUCT. (OCT 2015)

I-10 FAR 52.203-14 DISPLAY OF HOTLINE POSTER(S). (OCT 2015)

EPA Hotline Poster may be obtained from: <http://www.epa.gov/oig/hotline/html> or write to
EPA Office of Inspector General ATTN: OIG Hotline (2443) 1200 Pennsylvania Avenue, NW
Washington, DC 20460

I-11 FAR 52.203-17 CONTRACTOR EMPLOYEE WHISTLEBLOWER RIGHTS AND REQUIREMENT TO INFORM EMPLOYEES OF WHISTLEBLOWER RIGHTS. (APR 2014)

I-12 FAR 52.204-4 PRINTED OR COPIED DOUBLE-SIDED ON POSTCONSUMER FIBER CONTENT PAPER. (MAY 2011)

I-13 FAR 52.204-10 REPORTING EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT AWARDS. (OCT 2018)

I-14 FAR 52.204-13 SYSTEM FOR AWARD MANAGEMENT MAINTENANCE. (OCT 2018)

I-15 FAR 52.204-15 SERVICE CONTRACT REPORTING REQUIREMENTS FOR INDEFINITE-DELIVERY CONTRACTS. (OCT 2016)

I-16 FAR 52.204-21 BASIC SAFEGUARDING OF COVERED CONTRACTOR INFORMATION SYSTEMS. (JUN 2016)

(a) *Definitions.* As used in this clause-

Covered contractor information system means an information system that is owned or operated by a contractor that processes, stores, or transmits Federal contract information.

Federal contract information means information, not intended for public release, that is provided by or generated for the Government under a contract to develop or deliver a product or service to the Government, but not including information provided by the Government to the public (such as on public Web sites) or simple transactional information, such as necessary to process payments.

Information means any communication or representation of knowledge such as facts, data, or opinions, in any medium or form, including textual, numerical, graphic, cartographic, narrative, or audiovisual (Committee on National Security Systems Instruction (CNSSI) 4009).

Information system means a discrete set of information resources organized for the collection, processing, maintenance, use, sharing, dissemination, or disposition of information (44 U.S.C. 3502).

Safeguarding means measures or controls that are prescribed to protect information systems.

(b) *Safeguarding requirements and procedures.* (1) The Contractor shall apply the following basic safeguarding requirements and procedures to protect covered contractor information systems. Requirements and procedures for basic safeguarding of covered contractor information systems shall include, at a minimum, the following security controls:

(i) Limit information system access to authorized users, processes acting on behalf of authorized users, or devices (including other information systems).

(ii) Limit information system access to the types of transactions and functions that authorized users are permitted to execute.

(iii) Verify and control/limit connections to and use of external information systems.

(iv) Control information posted or processed on publicly accessible information systems.

(v) Identify information system users, processes acting on behalf of users, or devices.

(vi) Authenticate (or verify) the identities of those users, processes, or devices, as a prerequisite to allowing access to organizational information systems.

(vii) Sanitize or destroy information system media containing Federal Contract Information before disposal or release for reuse.

(viii) Limit physical access to organizational information systems, equipment, and the respective operating environments to authorized individuals.

(ix) Escort visitors and monitor visitor activity; maintain audit logs of physical access; and control and manage physical access devices.

(x) Monitor, control, and protect organizational communications (i.e., information transmitted or received by organizational information systems) at the external boundaries and key internal boundaries of the information systems.

(xi) Implement subnetworks for publicly accessible system components that are physically or logically separated from internal networks.

(xii) Identify, report, and correct information and information system flaws in a timely manner.

(xiii) Provide protection from malicious code at appropriate locations within organizational information systems.

(xiv) Update malicious code protection mechanisms when new releases are available.

(xv) Perform periodic scans of the information system and real-time scans of files from external sources as files are downloaded, opened, or executed.

(2) *Other requirements.* This clause does not relieve the Contractor of any other specific safeguarding requirements specified by Federal agencies and departments relating to covered contractor information systems generally or other Federal safeguarding requirements for controlled unclassified information (CUI) as established by Executive Order 13556.

(c) *Subcontracts.* The Contractor shall include the substance of this clause, including this paragraph (c), in subcontracts under this contract (including subcontracts for the acquisition of commercial items, other than commercially available off-the-shelf items), in which the subcontractor may have Federal contract information residing in or transiting through its information system.

(End of clause)

I-17 FAR 52.204-25 Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment (AUG 2020)

I-18 FAR 52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT. (OCT 2015)

I-19 FAR 52.209-9 UPDATES OF PUBLICLY AVAILABLE INFORMATION REGARDING RESPONSIBILITY MATTERS. (OCT 2018)

I-20 FAR 52.209-10 PROHIBITION ON CONTRACTING WITH INVERTED DOMESTIC CORPORATIONS. (NOV 2015)

I-21 FAR 52.210-1 MARKET RESEARCH. (APR 2011)

I-22 FAR 52.215-2 AUDIT AND RECORDS - NEGOTIATION. (OCT 2010)

I-23 FAR 52.215-8 ORDER OF PRECEDENCE - UNIFORM CONTRACT FORMAT. (OCT 1997)

I-24 FAR 52.215-11 PRICE REDUCTION FOR DEFECTIVE CERTIFIED COST OR PRICING DATA - MODIFICATIONS. (AUG 2011)

I-25 FAR 52.215-13 SUBCONTRACTOR CERTIFIED COST OR PRICING DATA - MODIFICATIONS. (OCT 2010)

I-26 FAR 52.215-18 REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS. (JUL 2005)

I-27 FAR 52.215-19 NOTIFICATION OF OWNERSHIP CHANGES. (OCT 1997)

I-28 FAR 52.215-21 REQUIREMENTS FOR CERTIFIED COST OR PRICING DATA AND DATA OTHER THAN CERTIFIED COST OR PRICING DATA - MODIFICATIONS. (OCT 2010)

I-29 FAR 52.216-7 ALLOWABLE COST AND PAYMENT. (AUG 2018)

(a) Invoicing.

(3) The designated payment office will make interim payments for contract financing on the 30th day after the designated billing office receives a proper payment request.

I-30 FAR 52.216-18 ORDERING. (OCT 1995)

(a) Any supplies and services to be furnished under this contract shall be ordered by issuance of delivery orders or task orders by the individuals or activities designated in the Schedule. Such orders may be issued from the effective date of contract award through 60 months from the date of contract award.

(b) All delivery orders or task orders are subject to the terms and conditions of this contract. In the event of conflict between a delivery order or task order and this contract, the contract shall control.

(c) If mailed, a delivery order or task order is considered "issued" when the Government deposits the order in the mail. Orders may be issued orally, by facsimile, or by electronic commerce methods only if authorized in the Schedule.

(End of clause)

I-31 FAR 52.216-19 ORDER LIMITATIONS. (OCT 1995)

(a) *Minimum order.* When the Government requires supplies or services covered by this contract in an amount of less than \$2,000, the Government is not obligated to purchase, nor is the Contractor obligated to furnish, those supplies or services under the contract.

(b) *Maximum order.* The Contractor is not obligated to honor-

(1) Any order for a single item in excess of \$20,000,000.00;

(2) Any order for a combination of items in excess of \$50,000,000; or

(3) A series of orders from the same ordering office within 7 days that together call for quantities exceeding the limitation in subparagraph (b)(1) or (2) above.

(c) If this is a requirements contract (*i.e.*, includes the Requirements clause at subsection 52.216-21 of the Federal Acquisition Regulation (FAR)), the Government is not required to order a part of any one requirement from the Contractor if that requirement exceeds the maximum-order limitations in paragraph (b) above.

(d) Notwithstanding paragraphs (b) and (c) above, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within 10 days after issuance, with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire the supplies or services from another source.

I-32 FAR 52.216-22 INDEFINITE QUANTITY. (OCT 1995)

(a) This is an indefinite-quantity contract for the supplies or services specified, and effective for the period stated, in the Schedule. The quantities of supplies and services specified in the Schedule are estimates only and are not purchased by this contract.

(b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. The Contractor shall furnish to the Government, when and if ordered, the supplies or services specified in the Schedule up to and including the quantity designated in the Schedule as the *maximum*. The Government shall order at least the quantity of supplies or services designated in the Schedule as the *minimum*.

(c) Except for any limitations on quantities in the Order Limitations clause or in the Schedule, there is no limit on the number of orders that may be issued. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.

(d) Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and Government's rights and obligations with respect to that order

to the same extent as if the order were completed during the contract's effective period; *provided*, that the Contractor shall not be required to make any deliveries under this contract after 12 months beyond the expiration date of the contract.

I-33 FAR 52.219-6 Notice of Total Small Business Set-Aside (Nov 2011)

(a) *Definition*. "Small business concern," as used in this clause, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the size standards in this solicitation.

(b) *Applicability*. This clause applies only to-

(1) Contracts that have been totally set aside or reserved for small business concerns; and

(2) Orders set aside for small business concerns under multiple-award contracts as described in 8.405-5 and 16.505(b)(2)(i)(F).

(c) *General*

(1) Offers are solicited only from small business concerns. Offers received from concerns that are not small business concerns shall be considered nonresponsive and will be rejected.

(2) Any award resulting from this solicitation will be made to a small business concern.

(d) *Agreement*. A small business concern submitting an offer in its own name shall furnish, in performing the contract, only end items manufactured or produced by small business concerns in the United States or its outlying areas. If this procurement is processed under simplified acquisition procedures and the total amount of this contract does not exceed \$25,000, a small business concern may furnish the product of any domestic firm. This paragraph does not apply to construction or service contracts.

I-34 FAR 52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS. (NOV 2016)

I-35 FAR 52.219-14 Limitations on Subcontracting. (Jan 2017)

(a) This clause does not apply to the unrestricted portion of a partial set-aside.

(b) *Applicability*. This clause applies only to-

(1) Contracts that have been set aside or reserved for small business concerns or 8(a) participants;

(2) Part or parts of a multiple-award contract that have been set aside for small business concerns or 8(a) participants; and

(3) Orders set aside for small business or 8(a) participants under multiple-award contracts as described in 8.405-5 and 16.505(b)(2)(i)(F).

(c) By submission of an offer and execution of a contract, the Offeror/Contractor agrees that in performance of the contract in the case of a contract for-

(1) Services (except construction). At least 50 percent of the cost of contract performance incurred for personnel shall be expended for employees of the concern.

(2) Supplies (other than procurement from a nonmanufacturer of such supplies). The concern shall perform work for at least 50 percent of the cost of manufacturing the supplies, not including the cost of materials.

(3) General construction. The concern will perform at least 15 percent of the cost of the contract, not including the cost of materials, with its own employees.

(4) Construction by special trade contractors. The concern will perform at least 25 percent of the cost of the contract, not including the cost of materials, with its own employees.

(End of clause)

I-34 FAR 52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION. (JUL 2013)

(a) *Definitions.* As used in this clause-

Long-term contract means a contract of more than five years in duration, including options. However, the term does not include contracts that exceed five years in duration because the period of performance has been extended for a cumulative period not to exceed six months under the clause at 52.217-8, Option to Extend Services, or other appropriate authority.

Small business concern means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR part 121 and the size standard in paragraph (c) of this clause. Such a concern is "not dominant in its field of operation" when it does not exercise a controlling or major influence on a national basis in a kind of business activity in which a number of business concerns are primarily engaged. In determining whether dominance exists, consideration shall be given to all appropriate factors, including volume of business, number of employees, financial resources, competitive status or position, ownership or control of materials, processes, patents, license agreements, facilities, sales territory, and nature of business activity.

(b) If the Contractor represented that it was a small business concern prior to award of this contract, the Contractor shall rerepresent its size status according to paragraph (e) of this clause or, if applicable, paragraph (g) of this clause, upon the occurrence of any of the following:

(1) Within 30 days after execution of a novation agreement or within 30 days after modification of the contract to include this clause, if the novation agreement was executed prior to inclusion of this clause in the contract.

(2) Within 30 days after a merger or acquisition that does not require a novation or within 30 days after modification of the contract to include this clause, if the merger or acquisition occurred prior to inclusion of this clause in the contract.

(3) For long-term contracts-

(i) Within 60 to 120 days prior to the end of the fifth year of the contract; and

(ii) Within 60 to 120 days prior to the date specified in the contract for exercising any option thereafter.

(c) The Contractor shall rerepresent its size status in accordance with the size standard in effect at the time of this rerepresentation that corresponds to the North American Industry Classification System (NAICS) code assigned to this contract. The small business size standard corresponding to this NAICS code can be found at <http://www.sba.gov/content/table-small-business-size-standards>.

(d) The small business size standard for a Contractor providing a product which it does not manufacture itself, for a contract other than a construction or service contract, is 500 employees.

(e) Except as provided in paragraph (g) of this clause, the Contractor shall make the representation required by paragraph (b) of this clause by validating or updating all its representations in the Representations and Certifications section of the System for Award Management (SAM) and its other data in SAM, as necessary, to ensure that they reflect the Contractor's current status. The Contractor shall notify the contracting office in writing within the timeframes specified in paragraph (b) of this clause that the data have been validated or updated, and provide the date of the validation or update.

(f) If the Contractor represented that it was other than a small business concern prior to award of this contract, the Contractor may, but is not required to, take the actions required by paragraphs (e) or (g) of this clause.

(g) If the Contractor does not have representations and certifications in SAM, or does not have a representation in SAM for the NAICS code applicable to this contract, the Contractor is required to complete the following rerepresentation and submit it to the contracting office, along with the contract number and the date on which the rerepresentation was completed:

The Contractor represents that it is a small business concern under NAICS Code 541715 assigned to contract number [insert contract number]. (*Contractor to sign and date and insert authorized signer's name and title*).

(End of clause)

I-37 FAR 52.222-17 NONDISPLACEMENT OF QUALIFIED WORKERS. (MAY 2014)

I-38 FAR 52.222-21 PROHIBITION OF SEGREGATED FACILITIES. (APR 2015)

I-39 FAR 52.222-26 EQUAL OPPORTUNITY. (SEP 2016)

I-40 FAR 52.222-35 EQUAL OPPORTUNITY FOR VETERANS. (OCT 2015)

(a) Definitions. As used in this clause-

"Active duty wartime or campaign badge veteran," "Armed Forces service medal veteran," "disabled veteran," "protected veteran," "qualified disabled veteran," and "recently separated veteran" have the meanings given at FAR 22.1301.

(b) Equal opportunity clause. The Contractor shall abide by the requirements of the equal opportunity clause at 41 CFR 60-300.5(a), as of March 24, 2014. This clause prohibits discrimination against qualified protected veterans, and requires affirmative action by the Contractor to employ and advance in employment qualified protected veterans.

(c) Subcontracts. The Contractor shall insert the terms of this clause in subcontracts of \$150,000 or more unless exempted by rules, regulations, or orders of the Secretary of Labor. The Contractor shall act as specified by the Director, Office of Federal Contract Compliance Programs, to enforce the terms, including action for noncompliance. Such necessary changes in language may be made as shall be appropriate to identify properly the parties and their undertakings.

(End of clause)

I-41 FAR 52.222-36 EQUAL OPPORTUNITY FOR WORKERS WITH DISABILITIES. (JUL 2014)

(a) Equal opportunity clause. The Contractor shall abide by the requirements of the equal opportunity clause at 41 CFR 60-741.5(a), as of March 24, 2014. This clause prohibits discrimination against qualified individuals on the basis of disability, and requires affirmative action by the Contractor to employ and advance in employment qualified individuals with disabilities.

(b) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order in excess of \$15,000 unless exempted by rules, regulations, or orders of the Secretary, so that such provisions will be binding upon each subcontractor or vendor. The Contractor shall act as specified by the Director, Office of Federal Contract Compliance Programs of the U.S. Department of Labor, to enforce the terms, including action for noncompliance. Such necessary changes in language may be made as shall be appropriate to identify properly the parties and their undertakings.

(End of clause)

I-42 FAR 52.222-37 EMPLOYMENT REPORTS ON VETERANS. (FEB 2016)

I-43 FAR 52.222-40 NOTIFICATION OF EMPLOYEE RIGHTS UNDER THE NATIONAL LABOR RELATIONS ACT. (DEC 2010)

I-44 FAR 52.222-50 COMBATING TRAFFICKING IN PERSONS. (JAN 2019)

I-45 FAR 52.222-54 Employment Eligibility Verification (Oct 2015)

(a) Definitions. As used in this clause-

“Commercially available off-the-shelf (COTS) item”-

(1) Means any item of supply that is-

(i) A commercial item (as defined in paragraph (1) of the definition at 2.101);

(ii) Sold in substantial quantities in the commercial marketplace; and

(iii) Offered to the Government, without modification, in the same form in which it is sold in the commercial marketplace; and

(2) Does not include bulk cargo, as defined in 46 U.S.C. 40102(4), such as agricultural products and petroleum products. Per 46 CFR 525.1 (c)(2), “bulk cargo” means cargo that is loaded and carried in bulk onboard ship without mark or count, in a loose unpackaged form, having homogenous characteristics. Bulk cargo loaded into intermodal equipment, except LASH or Seabee barges, is subject to mark and count and, therefore, ceases to be bulk cargo.

“Employee assigned to the contract” means an employee who was hired after November 6, 1986 (after November 27, 2009 in the Commonwealth of the Northern Mariana Islands), who is directly performing work, in the United States, under a contract that is required to include the clause prescribed at 22.1803. An employee is not considered to be directly performing work under a contract if the employee-

(1) Normally performs support work, such as indirect or overhead functions; and

(2) Does not perform any substantial duties applicable to the contract.

“Subcontract” means any contract, as defined in 2.101, entered into by a subcontractor to furnish supplies or services for performance of a prime contract or a subcontract. It includes but is not limited to purchase orders, and changes and modifications to purchase orders.

“Subcontractor” means any supplier, distributor, vendor, or firm that furnishes supplies or services to or for a prime Contractor or another subcontractor.

“United States”, as defined in 8 U.S.C. 1101(a)(38), means the 50 States, the District of Columbia, Puerto Rico, Guam, the Commonwealth of the Northern Mariana Islands, and the U.S. Virgin Islands.

(b) Enrollment and verification requirements. (1) If the Contractor is not enrolled as a Federal Contractor in E-Verify at time of contract award, the Contractor shall-

(i) Enroll. Enroll as a Federal Contractor in the E-Verify program within 30 calendar days of contract award;

(ii) Verify all new employees. Within 90 calendar days of enrollment in the E-Verify program, begin to use E-Verify to initiate verification of employment eligibility of all new hires of the Contractor, who are working in the United States, whether or not assigned to the contract, within 3 business days after the date of hire (but see paragraph (b)(3) of this section); and

(iii) Verify employees assigned to the contract. For each employee assigned to the contract, initiate verification within 90 calendar days after date of enrollment or within 30 calendar days of the employee's assignment to the contract, whichever date is later (but see paragraph (b)(4) of this section).

(2) If the Contractor is enrolled as a Federal Contractor in E-Verify at time of contract award, the Contractor shall use E-Verify to initiate verification of employment eligibility of-

(i) All new employees. (A) Enrolled 90 calendar days or more. The Contractor shall initiate verification of all new hires of the Contractor, who are working in the United States, whether or not assigned to the contract, within 3 business days after the date of hire (but see paragraph (b)(3) of this section); or

(B) Enrolled less than 90 calendar days. Within 90 calendar days after enrollment as a Federal Contractor in E-Verify, the Contractor shall initiate verification of all new hires of the Contractor, who are working in the United States, whether or not assigned to the contract, within 3 business days after the date of hire (but see paragraph (b)(3) of this section); or

(ii) Employees assigned to the contract. For each employee assigned to the contract, the Contractor shall initiate verification within 90 calendar days after date of contract award or within 30 days after assignment to the contract, whichever date is later (but see paragraph (b)(4) of this section).

(3) If the Contractor is an institution of higher education (as defined at 20 U.S.C. 1001(a)); a State or local government or the government of a Federally recognized Indian tribe; or a surety performing under a takeover agreement entered into with a Federal agency pursuant to a performance bond, the Contractor may choose to verify only employees assigned to the contract, whether existing employees or new hires. The Contractor shall follow the applicable verification requirements at (b)(1) or (b)(2) respectively, except that any requirement for verification of new employees applies only to new employees assigned to the contract.

(4) Option to verify employment eligibility of all employees. The Contractor may elect to verify all existing employees hired after November 6, 1986 (after November 27, 2009, in the Commonwealth of the Northern Mariana Islands), rather than just those employees assigned to the contract. The Contractor shall initiate verification for each existing employee working in the United States who was

hired after November 6, 1986 (after November 27, 2009, in the Commonwealth of the Northern Mariana Islands), within 180 calendar days of-

(i) Enrollment in the E-Verify program; or

(ii) Notification to E-Verify Operations of the Contractor's decision to exercise this option, using the contact information provided in the E-Verify program Memorandum of Understanding (MOU).

(5) The Contractor shall comply, for the period of performance of this contract, with the requirements of the E-Verify program MOU.

(i) The Department of Homeland Security (DHS) or the Social Security Administration (SSA) may terminate the Contractor's MOU and deny access to the E-Verify system in accordance with the terms of the MOU. In such case, the Contractor will be referred to a suspension or debarment official.

(ii) During the period between termination of the MOU and a decision by the suspension or debarment official whether to suspend or debar, the Contractor is excused from its obligations under paragraph (b) of this clause. If the suspension or debarment official determines not to suspend or debar the Contractor, then the Contractor must reenroll in E-Verify.

(c) Web site. Information on registration for and use of the E-Verify program can be obtained via the Internet at the Department of Homeland Security Web site: <http://www.dhs.gov/E-Verify.gov/E-Verify>.

(d) Individuals previously verified. The Contractor is not required by this clause to perform additional employment verification using E-Verify for any employee-

(1) Whose employment eligibility was previously verified by the Contractor through the E-Verify program;

(2) Who has been granted and holds an active U.S. Government security clearance for access to confidential, secret, or top secret information in accordance with the National Industrial Security Program Operating Manual; or

(3) Who has undergone a completed background investigation and been issued credentials pursuant to Homeland Security Presidential Directive (HSPD)-12, Policy for a Common Identification Standard for Federal Employees and Contractors.

(e) Subcontracts. The Contractor shall include the requirements of this clause, including this paragraph (e) (appropriately modified for identification of the parties), in each subcontract that-

(1) Is for- (i) Commercial or noncommercial services (except for commercial services that are part of the purchase of a COTS item (or an item that would be a COTS item, but for minor modifications), performed by the COTS provider, and are normally provided for that COTS item); or

(ii) Construction;

(2) Has a value of more than \$3,500; and

(3) Includes work performed in the United States.

(End of clause)

I-46 FAR 52.223-6 DRUG-FREE WORKPLACE. (MAY 2001)

I-47 FAR 52.223-9 Estimate of Percentage of Recovered Material Content for EPA-Designated Items (May 2008)

(a) Definitions. As used in this clause-

“Postconsumer material” means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Postconsumer material is a part of the broader category of “recovered material.”

“Recovered material” means waste materials and by-products recovered or diverted from solid waste, but the term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.

(b) The Contractor, on completion of this contract, shall-

(1) Estimate the percentage of the total recovered material content for EPA-designated item(s) delivered and/or used in contract performance, including, if applicable, the percentage of post-consumer material content; and

(2) Submit this estimate to the Administrative Contract Officer at the time of contract completion.

(End of clause)

I-48 FAR 52.223-10 Waste Reduction Program (May 2011)

(a) Definitions. As used in this clause-

“Recycling” means the series of activities, including collection, separation, and processing, by which products or other materials are recovered from the solid waste stream for use in the form of raw materials in the manufacture of products other than fuel for producing heat or power by combustion.

“Waste prevention” means any change in the design, manufacturing, purchase, or use of materials or products (including packaging) to reduce their amount or toxicity before they are discarded. Waste prevention also refers to the reuse of products or materials.

“Waste reduction” means preventing or decreasing the amount of waste being generated through waste prevention, recycling, or purchasing recycled and environmentally preferable products.

(b) Consistent with the requirements of section 3(e) of Executive Order 13423, the Contractor shall establish a program to promote cost-effective waste reduction in all operations and facilities covered by this contract. The Contractor’s programs shall comply with applicable Federal, State, and local requirements, specifically including Section 6002 of the Resource Conservation and Recovery Act (42 U.S.C.6962, etseq.) and implementing regulations (40 CFR Part 247).

(End of clause)

I-49 FAR 52.223-18 ENCOURAGING CONTRACTOR POLICIES TO BAN TEXT MESSAGING WHILE DRIVING. (AUG 2011)

I-50 FAR 52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES. (JUN 2008)

(a) Except as authorized by the Office of Foreign Assets Control (OFAC) in the Department of the Treasury, the Contractor shall not acquire, for use in the performance of this contract, any supplies or services if any proclamation, Executive order, or statute administered by OFAC, or if OFAC's implementing regulations at 31 CFR chapter V, would prohibit such a transaction by a person subject to the jurisdiction of the United States.

(b) Except as authorized by OFAC, most transactions involving Cuba, Iran, and Sudan are prohibited, as are most imports from Burma or North Korea, into the United States or its outlying areas. Lists of entities and individuals subject to economic sanctions are included in OFAC's List of Specially Designated Nationals and Blocked Persons at <http://www.treas.gov/offices/enforcement/ofac/sdn>. More information about these restrictions, as well as updates, is available in the OFAC's regulations at 31 CFR chapter V and/or on OFAC's Web site at <http://www.treas.gov/offices/enforcement/ofac>.

(c) The Contractor shall insert this clause, including this paragraph (c), in all subcontracts.

(End of clause)

I-51 FAR 52.227-1 Authorization and Consent (Dec 2007)

(a) The Government authorizes and consents to all use and manufacture, in performing this contract or any subcontract at any tier, of any invention described in and covered by a United States patent-

(1) Embodied in the structure or composition of any article the delivery of which is accepted by the Government under this contract; or

(2) Used in machinery, tools, or methods whose use necessarily results from compliance by the Contractor or a subcontractor with (i) specifications or written provisions forming a part of this contract or (ii) specific written instructions given by the Contracting Officer directing the manner of performance. the entire liability to the Government for infringement of a United States patent shall be determined solely by the provisions of the indemnity clause, if any, included in this contract or any subcontract hereunder (including any lower-tier subcontract), and the Government assumes liability for all other infringement to the extent of the authorization and consent hereinabove granted.

(b) The Contractor shall include the substance of this clause, including this paragraph (b), in all subcontracts that are expected to exceed the simplified acquisition threshold. However, omission of this clause from any subcontract, including those at or below the simplified acquisition threshold, does not affect this authorization and consent.

(End of clause)

I-52 FAR 52.227-2 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT. (DEC 2007)

(a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the Contractor has knowledge.

(b) In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed under this contract, the Contractor shall furnish to the Government, when requested by the Contracting Officer, all evidence and information in the Contractor's possession pertaining to such claim or suit. Such evidence and information shall be furnished at the expense of the Government except where the Contractor has agreed to indemnify the Government.

(c) The Contractor shall include the substance of this clause, including this paragraph (c), in all subcontracts that are expected to exceed the simplified acquisition threshold.

(End of clause)

I-53 FAR 52.227-14 RIGHTS IN DATA-GENERAL. (MAY 2014)

I-54 FAR 52.227-14 RIGHTS IN DATA-GENERAL. (MAY 2014) - ALTERNATE II (DEC 2007)

I-55 FAR 52.227-14 RIGHTS IN DATA-GENERAL. (MAY 2014) - ALTERNATE III (DEC 2007)

I-56 FAR 52.227-16 ADDITIONAL DATA REQUIREMENTS. (JUN 1987)

I-57 FAR 52.227-17 RIGHTS IN DATA--SPECIAL WORKS. (DEC 2007)

I-58 FAR 52.229-3 FEDERAL, STATE, AND LOCAL TAXES. (FEB 2013)

I-59 FAR 52.230-2 COST ACCOUNTING STANDARDS. (OCT 2015)

I-60 FAR 52.230-6 ADMINISTRATION OF COST ACCOUNTING STANDARDS. (JUN 2010)

I-61 FAR 52.232-1 PAYMENTS. (APR 1984)

I-62 FAR 52.232-7 PAYMENTS UNDER TIME-AND-MATERIALS AND LABOR-HOUR CONTRACTS. (AUG 2012)

The Government will pay the Contractor as follows upon the submission of vouchers approved by the Contracting Officer or the authorized representative:

(a) Hourly rate. (1) Hourly rate means the rate(s) prescribed in the contract for payment for labor that meets the labor category qualifications of a labor category specified in the contract that are-

(i) Performed by the Contractor;

(ii) Performed by the subcontractors; or

(iii) Transferred between divisions, subsidiaries, or affiliates of the Contractor under a common control.

(2) The amounts shall be computed by multiplying the appropriate hourly rates prescribed in the Schedule by the number of direct labor hours performed.

(3) The hourly rates shall be paid for all labor performed on the contract that meets the labor qualifications specified in the contract. Labor hours incurred to perform tasks for which labor qualifications were specified in the contract will not be paid to the extent the work is performed by employees that do not meet the qualifications specified in the contract, unless specifically authorized by the Contracting Officer.

(4) The hourly rates shall include wages, indirect costs, general and administrative expense, and profit. Fractional parts of an hour shall be payable on a prorated basis.

(5) Vouchers may be submitted not more than once every two weeks, to the Contracting Officer or authorized representative. A small business concern may receive more frequent payments than every two weeks. The Contractor shall substantiate vouchers (including any subcontractor hours reimbursed at the hourly rate in the schedule) by evidence of actual payment and by-

(i) Individual daily job timekeeping records;

(ii) Records that verify the employees meet the qualifications for the labor categories specified in the contract; or

(iii) Other substantiation approved by the Contracting Officer.

(6) Promptly after receipt of each substantiated voucher, the Government shall, except as otherwise provided in this contract, and subject to the terms of paragraph (e) of this clause, pay the voucher as approved by the Contracting Officer or authorized representative.

(7) Unless otherwise prescribed in the Schedule, the Contracting Officer may unilaterally issue a contract modification requiring the Contractor to withhold amounts from its billings until a reserve is set aside in an amount that the Contracting Officer considers necessary to protect the Government's interests. The Contracting Officer may require a withhold of 5 percent of the amounts due under paragraph (a) of this clause, but the total amount withheld for the contract shall not exceed \$50,000. The amounts withheld shall be retained until the Contractor executes and delivers the release required by paragraph (g) of this clause.

(8) Unless the Schedule prescribes otherwise, the hourly rates in the Schedule shall not be varied by virtue of the Contractor having performed work on an overtime basis. If no overtime rates are provided in the Schedule and overtime work is approved in advance by the Contracting Officer, overtime rates shall be negotiated. Failure to agree upon these overtime rates shall be treated as a dispute under the Disputes clause of this contract. If the Schedule provides rates for overtime, the premium portion of those rates will be reimbursable only to the extent the overtime is approved by the Contracting Officer.

(b) Materials. (1) For the purposes of this clause-

(i) Direct materials means those materials that enter directly into the end product, or that are used or consumed directly in connection with the furnishing of the end product or service.

(ii) Materials means-

(A) Direct materials, including supplies transferred between divisions, subsidiaries, or affiliates of the Contractor under a common control;

(B) Subcontracts for supplies and incidental services for which there is not a labor category specified in the contract;

(C) Other direct costs (e.g., incidental services for which there is not a labor category specified in the contract, travel, computer usage charges, etc.); and

(D) Applicable indirect costs.

(2) If the Contractor furnishes its own materials that meet the definition of a commercial item at 2.101, the price to be paid for such materials shall not exceed the Contractor's established catalog or market price, adjusted to reflect the-

(i) Quantities being acquired; and

(ii) Actual cost of any modifications necessary because of contract requirements.

(3) Except as provided for in paragraph (b)(2) of this clause, the Government will reimburse the Contractor for allowable cost of materials provided the Contractor-

(i) Has made payments for materials in accordance with the terms and conditions of the agreement or invoice; or

(ii) Ordinarily makes these payments within 30 days of the submission of the Contractor's payment request to the Government and such payment is in accordance with the terms and conditions of the agreement or invoice.

(4) Payment for materials is subject to the Allowable Cost and Payment clause of this contract. The Contracting Officer will determine allowable costs of materials in accordance with Subpart 31.2 of the Federal Acquisition Regulation (FAR) in effect on the date of this contract.

(5) The Contractor may include allocable indirect costs and other direct costs to the extent they are-

(i) Comprised only of costs that are clearly excluded from the hourly rate;

(ii) Allocated in accordance with the Contractor's written or established accounting practices; and

(iii) Indirect costs are not applied to subcontracts that are paid at the hourly rates.

(6) To the extent able, the Contractor shall-

(i) Obtain materials at the most advantageous prices available with due regard to securing prompt delivery of satisfactory materials; and

(ii) Take all cash and trade discounts, rebates, allowances, credits, salvage, commissions, and other benefits. When unable to take advantage of the benefits, the Contractor shall promptly notify the Contracting Officer and give the reasons. The Contractor shall give credit to the Government for cash and trade discounts, rebates, scrap, commissions, and other amounts that have accrued to the benefit of the Contractor, or would have accrued except for the

fault or neglect of the Contractor. The Contractor shall not deduct from gross costs the benefits lost without fault or neglect on the part of the Contractor, or lost through fault of the Government.

(7) Except as provided for in 31.205-26(e) and (f), the Government will not pay profit or fee to the prime Contractor on materials.

(c) If the Contractor enters into any subcontract that requires consent under the clause at 52.244-2, Subcontracts, without obtaining such consent, the Government is not required to reimburse the Contractor for any costs incurred under the subcontract prior to the date the Contractor obtains the required consent. Any reimbursement of subcontract costs incurred prior to the date the consent was obtained shall be at the sole discretion of the Government.

(d) Total cost. It is estimated that the total cost to the Government for the performance of this contract shall not exceed the ceiling price set forth in the Schedule, and the Contractor agrees to use its best efforts to perform the work specified in the Schedule and all obligations under this contract within such ceiling price. If at any time the Contractor has reason to believe that the hourly rate payments and material costs that will accrue in performing this contract in the next succeeding 30 days, if added to all other payments and costs previously accrued, will exceed 85 percent of the ceiling price in the Schedule, the Contractor shall notify the Contracting Officer giving a revised estimate of the total price to the Government for performing this contract with supporting reasons and documentation. If at any time during performing this contract, the Contractor has reason to believe that the total price to the Government for performing this contract will be substantially greater or less than the then stated ceiling price, the Contractor shall so notify the Contracting Officer, giving a revised estimate of the total price for performing this contract, with supporting reasons and documentation. If at any time during performing this contract, the Government has reason to believe that the work to be required in performing this contract will be substantially greater or less than the stated ceiling price, the Contracting Officer will so advise the Contractor, giving the then revised estimate of the total amount of effort to be required under the contract.

(e) Ceiling price. The Government will not be obligated to pay the Contractor any amount in excess of the ceiling price in the Schedule, and the Contractor shall not be obligated to continue performance if to do so would exceed the ceiling price set forth in the Schedule, unless and until the Contracting Officer notifies the Contractor in writing that the ceiling price has been increased and specifies in the notice a revised ceiling that shall constitute the ceiling price for performance under this contract. When and to the extent that the ceiling price set forth in the Schedule has been increased, any hours expended and material costs incurred by the Contractor in excess of the ceiling price before the increase shall be allowable to the same extent as if the hours expended and material costs had been incurred after the increase in the ceiling price.

(f) Audit. At any time before final payment under this contract, the Contracting Officer may request audit of the vouchers and supporting documentation. Each payment previously made

shall be subject to reduction to the extent of amounts, on preceding vouchers, that are found by the Contracting Officer or authorized representative not to have been properly payable and shall also be subject to reduction for overpayments or to increase for underpayments. Upon receipt and approval of the voucher designated by the Contractor as the "completion voucher" and supporting documentation, and upon compliance by the Contractor with all terms of this contract (including, without limitation, terms relating to patents and the terms of paragraph (g) of this clause), the Government shall promptly pay any balance due the Contractor. The completion voucher, and supporting documentation, shall be submitted by the Contractor as promptly as practicable following completion of the work under this contract, but in no event later than 120 days (or such longer period as the Contracting Officer may approve in writing) from the date of completion.

(g) Assignment and Release of Claims. The Contractor, and each assignee under an assignment entered into under this contract and in effect at the time of final payment under this contract, shall execute and deliver, at the time of and as a condition precedent to final payment under this contract, a release discharging the Government, its officers, agents, and employees of and from all liabilities, obligations, and claims arising out of or under this contract, subject only to the following exceptions:

(1) Specified claims in stated amounts, or in estimated amounts if the amounts are not susceptible of exact statement by the Contractor.

(2) Claims, together with reasonable incidental expenses, based upon the liabilities of the Contractor to third parties arising out of performing this contract, that are not known to the Contractor on the date of the execution of the release, and of which the Contractor gives notice in writing to the Contracting Officer not more than 6 years after the date of the release or the date of any notice to the Contractor that the Government is prepared to make final payment, whichever is earlier.

(3) Claims for reimbursement of costs (other than expenses of the Contractor by reason of its indemnification of the Government against patent liability), including reasonable incidental expenses, incurred by the Contractor under the terms of this contract relating to patents.

(h) Interim payments on contracts for other than services. (1) Interim payments made prior to the final payment under the contract are contract financing payments. Contract financing payments are not subject to the interest penalty provisions of the Prompt Payment Act.

(2) The designated payment office will make interim payments for contract financing on the 30th day after the designated billing office receives a proper payment request. In the event that the Government requires an audit or other review of a specific payment request to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the specified due date.

(i) Interim payments on contracts for services. For interim payments made prior to the final payment under this contract, the Government will make payment in accordance with the Prompt Payment Act (31 U.S.C. 3903) and prompt payment regulations at 5 CFR part 1315.

(End of Clause)

I-63 FAR 52.232-8 DISCOUNTS FOR PROMPT PAYMENT. (FEB 2002)

I-64 FAR 52.232-11 EXTRAS. (APR 1984)

I-65 FAR 52.232-17 INTEREST. (MAY 2014)

I-66 FAR 52.232-23 ASSIGNMENT OF CLAIMS. (MAY 2014)

I-67 FAR 52.232-25 PROMPT PAYMENT. (JAN 2017)

I-68 FAR 52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER - SYSTEM FOR AWARD MANAGEMENT. (OCT 2018)

I-69 FAR 52.232-39 UNENFORCEABILITY OF UNAUTHORIZED OBLIGATIONS. (JUN 2013)

I-70 FAR 52.232-40 PROVIDING ACCELERATED PAYMENTS TO SMALL BUSINESS SUBCONTRACTORS. (DEC 2013)

I-71 FAR 52.233-1 DISPUTES. (MAY 2014)

I-72 FAR 52.233-3 PROTEST AFTER AWARD. (AUG 1996)

I-73 FAR 52.233-4 APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM. (OCT 2004)

I-74 FAR 52.237-3 CONTINUITY OF SERVICES. (JAN 1991)

I-75 FAR 52.242-3 PENALTIES FOR UNALLOWABLE COSTS. (MAY 2014)

I-76 FAR 52.242-5 PAYMENTS TO SMALL BUSINESS SUBCONTRACTORS. (JAN 2017)

I-77 FAR 52.242-13 BANKRUPTCY. (JUL 1995)

I-78 FAR 52.243-1 CHANGES - FIXED-PRICE. (AUG 1987) - ALTERNATE I (APR 1984)

I-79 FAR 52.243-3 CHANGES - TIME-AND-MATERIALS OR LABOR-HOURS. (SEP 2000)

I-80 FAR 52.244-2 SUBCONTRACTS. (OCT 2010)

(d) If the Contractor has an approved purchasing system, the Contractor nevertheless shall obtain the Contracting Officer's written consent before placing the following subcontracts: TO BE COMPLETED AT CONTRACT AWARD

(j) Paragraphs (c) and (e) of this clause do not apply to the following subcontracts, which were evaluated during negotiations: TO BE COMPLETED AT CONTRACT AWARD

I-81 FAR 52.244-6 SUBCONTRACTS FOR COMMERCIAL ITEMS. (AUG 2019)

I-82 FAR 52.245-1 GOVERNMENT PROPERTY. (JAN 2017)

I-83 FAR 52.245-9 USE AND CHARGES. (APR 2012)

I-84 FAR 52.246-25 LIMITATION OF LIABILITY - SERVICES. (FEB 1997)

I-85 FAR 52.249-2 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE). (APR 2012)

I-86 FAR 52.249-8 DEFAULT (FIXED-PRICE SUPPLY AND SERVICE). (APR 1984)

I-87 FAR 52.249-14 EXCUSABLE DELAYS. (APR 1984)

I-88 FAR 52.252-2 CLAUSES INCORPORATED BY REFERENCE. (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es): [HTTPS://WWW.ACQUISITION.GOV](https://www.acquisition.gov) or http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&tpl=/ecfrbrowse/Title48/48cfrv6_02.tpl

(End of clause)

I-89 FAR 52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES. (APR 1984)

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of \$(*DEVIATION*) after the date of the clause.

(b) The use in this solicitation or contract of any Environmental Protection Agency (48 CFR Chapter 15) clause with an authorized deviation is indicated by the addition of \$(*DEVIATION*) after the name of the regulation.

(End of clause)

I-90 FAR 52.253-1 COMPUTER GENERATED FORMS. (JAN 1991)

SECTION J - List of Documents, Exhibits and Other Attachments

J-1 Local Clauses EPA-J-52-101 LIST OF ATTACHMENTS

Number Attachment Title

Attachment 1 - Performance Work Statement

Attachment 2 – Quality Assurance Surveillance Plan

Attachment 3— Reports of Work

Attachment 4— Labor Classification Standards

PERFORMANCE WORK STATEMENT

68HERC20D0029

Office of Research and Development Risk Management and Ecological Exposure Research Support Services II (RMEERS II)

1. BACKGROUND

The US Environmental Protection Agency (USEPA) Office of Research and Development (ORD) conducts in-house research into a wide range of subjects related to the environment. This research encompasses all forms of chemical and biological contamination within ecosystems, drinking water, drinking water sources and ambient water, facilities, industrial and municipal sites, infrastructure systems and/or buildings. ORD's research goals require the capabilities to: (1) characterize the types and extent of contamination from hazardous waste discharges, oil spills, and bioterrorist contamination; (2) evaluate remediation processes and treatment processes, and drinking water and wastewater systems; (3) develop suites of biological indicators describing the condition of watershed ecosystems and quantifying the extent, magnitude, and sources of exposure of ecosystem components to chemical, biological, and physical stressors; (4) conduct analytical method development and quality assurance control; (5) conduct field research to characterize microbial and/or chemical contamination in a variety of matrices; (6) characterize biomarkers of exposure; (7) develop and evaluate models to predict the impact of environmental contamination; (8) prepare and present data.

The research is designed to provide practical multimedia solutions to environmental issues generated by catastrophic or long-term situations, assess and predict exposures of humans and ecosystems to harmful environmental stressors, and also provide the foundation for the development of approaches to reduce exposures, and safeguard human health and the environment. The research may involve problems of broad national significance and include: (1) integrated, multidisciplinary research, (2) research conducted within a life-cycle assessment framework, (3) research to inform decision analysis for environmental solutions, (4) minimization of uncertainty, (5) characterization and bioavailability properties for customized site remediation options, (6) renewable energy production including biofuels, (7) management and reuse options of waste materials, (8) management of emerging waste streams (e.g., endocrine disruptors, disaster recovery wastes), (9) sustainable environmental community design, (10) brownfield site reuse techniques, and (11) quantitative microbial and/or chemical risk assessment. This contract is for use by all of ORD. However, it is anticipated that the contract will primarily be utilized by Cincinnati offices of ORD.

2. PURPOSE

The purpose of this performance work statement (PWS) is to provide technical and analytical support to USEPA ORD in the conduct of research, development, and evaluation studies. Services will be specified through task orders (TOs) issued by the Contracting Officer (CO), administratively managed by the Contract Level-Contracting Officer Representative (CL-COR), and technically managed by Task Order CORs.

This contract will support on-site bench research and off-site research resulting from or relating to in-house research conducted within the USEPA.

3. CONTRACT REQUIREMENTS

The Contractor shall furnish all personnel, equipment, and services necessary to conduct the research activities in this PWS. A task order will involve one or more research activities. Depending on the needs of the TOCOR, the contractor shall provide support on site, i.e., mainly within the ORD Cincinnati-area facilities, but could be at other ORD facilities and/or extramurally, e.g., at the contractor's laboratory or facility; at a national priorities list (NPL) hazardous waste site, brownfield, or field site; or at a municipal, industrial, or Federal facility. On-site support services for ORD-Cincinnati facilities shall be performed at the Andrew W. Breidenbach Environmental Research Center (AWBERC) or at satellite facilities in the greater Cincinnati, Ohio area, including the Center Hill Facility in Cincinnati, Ohio; the Test and Evaluation Facility in Cincinnati, Ohio; the Experimental Stream Facility in Milford, Ohio; and the Full-Containment Facility adjacent to the AWBERC building.

The standard work week for on-site contractor personnel shall be eight hours per day, Monday thru Friday. The hours can be worked anytime between 7:00 A.M. and 6:00 P.M. USEPA facilities will be closed on federal government holidays and in other situations. On-site contractor personnel shall be issued ID badges by USEPA in compliance with HSPD-12 (see appendix 2 to the PWS). Contractor personnel shall be required to wear ID badges at all times while within USEPA facilities.

4. SCOPE OF WORK

The Contractor shall perform all of the following activities:

(A) Treatment and Remedial Processes and Systems

The Contractor shall design, fabricate, install, test, and evaluate bench-scale, pilot-scale, field, and prototype processes in the following fields:

- (1) Biological and biochemical processes, e.g., phytoremediation, natural attenuation, etc.;
- (2) Physical treatment, handling, and containment processes, e.g., dredging, natural remediation, etc.;

- (3) Chemical treatment processes;
- (4) Thermal treatment processes; and
- (5) Permeable reactive barriers as applied to gas, liquid and solid streams.

(B) Monitoring and Evaluation

The Contractor shall sample, monitor, and evaluate chemical and biological contamination presence, persistence, movement, and/or degradation at the following locations:

- (1) Buildings - e.g., internal and external contamination;
- (2) Facilities - e.g., wastewater and drinking water systems, landfills, lagoons, containment facilities (e.g., treatment, storage, and disposal facilities (TSDF)), and confined disposal facilities (CDF);
- (3) Sites - e.g., National Priorities List (NPL), brownfield, Base Realignment and Closure (BRAC), and any abandoned sites such as mines, industrial, etc;
- (4) Ecosystems - e.g., clean, degraded, and contaminated.

(C) Media

The contractor shall collect, preserve, store, and transport samples from the following media as required:

- (1) Soils - e.g., Vadose zone, water table, fractured rock, fish tissue, food items, food composites;
- (2) Sediments - e.g., lake, river, tidal, estuaries, and coastal;
- (3) Water - e.g., groundwater, surface waters, marine waters, wastewater and drinking water systems;
- (4) Gases - e.g., generation, volatilization, and evaporation;
- (5) Debris - e.g., trash, and construction and demolition debris.

(D) Organism cultivation/rearing

The contractor shall provide support for:

- 1. Aquatic Research Facility
 - a. Maintain the Aquatic Research Facility at AWBERC which houses aquatic species, and some plant species, used for research activities;
 - b. Be responsible for the care and feeding of the aquatic organisms, general maintenance of the facility and supply the highest quality organisms for research;
 - c. Be qualified, knowledgeable and experienced in all aspects of aquatic species culturing and aquatic research facility management, including implementation of provisions of the Animal Welfare Act;
 - d. Provide services in strict conformance with the National Institute of

Health's (NIH) "Guide for the Care and Use of Laboratory Animals", Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC) requirements, applicable Good Laboratory Animal Care (GLAC) and Quality Assurance/Good Laboratory Practices (GLP - 40 CFR, Part 160, 1989) regulations and guidelines;

- e. Maintain AAALAC accreditation of the Central Animal Facility and the Aquatic Research Facility;
- f. Actively maintain and cryopreserve microorganisms.

2. Cell culture maintenance and handling

- a. Maintain cell lines – e.g., Buffalo Green Monkey (BGM) line, A549s, HTC8s. Maintenance activities include thawing and initiating frozen cultures, monitoring cultures during incubation, and splitting the lines as requested;
- b. Production of culture flasks for experimentation.

3. Microbial culture and maintenance

Contractor will grow and maintain bacterial, protozoan, viral and algal cultures as requested.

(E) Contamination Measurement

The Contractor shall analyze for chemicals and biologicals from samples obtained from sites, ecosystems, facilities, and buildings (see item "C" above):

- 1) Organic compounds - e.g., petroleum products, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), non-volatile compounds, steroid hormones, pesticides, polychlorinated biphenyls (PCBs), explosives, Polybrominated diphenyl ethers (PBDES) and Per- and polyfluoroalkyl substances (PFAS);
- 2) Inorganic elements - e.g., metals, acids, and bases; alkalinity; and compounds;
- (3) Biological material - e.g., viruses, bacteriophage, bacteria (e.g., degraders), select agents;
- (4) Ecological factors - e.g., bioassays, biological surveys (counts), deoxyribonucleic acid (DNA), ribonucleic acid (RNA), most probable number (MPN), nutrients;
- (5) Physical properties - e.g., solids, pore and particle size distribution, surface area, moisture, hydraulic conductivity, Lipid analysis.

Activities included in these sample analyses are:

- (1) Sample recovery, separation, compositing, and extraction;
- (2) Organic and inorganic chemical analyses;
- (3) Bioassays and biological surveys; and
- (4) Development and adaptation of analytical techniques for sample analysis.

Deployment, operation and maintenance of in situ sampling or monitoring devices, including data transfer from these devices.

(F) Method development

The Contractor shall assist in the following actions:

- (1) Development of methods to include detection of microbial occurrence. This will include assisting with the development and evaluation of:
 - (a) Sample collection: e.g., performing filtration to isolate microorganisms from large volume water samples, processing biosolids samples, or working with wastewater or other matrices;
 - (b) Sample processing: e.g., sample elution, such as from a filter and additional concentration procedures;
 - (c) Sample purification: e.g., nucleic acid extraction and inhibitor removal;
 - (d) Sample analysis: e.g., molecular and cultural assays to evaluate the effectiveness of the method.
- (2) Development of methods to measure human exposure to various contaminants. The Contractor shall provide assistance with the following as directed using USEPA supplied protocols:
 - (a) Preparing recombinant proteins to be used in immunoassays
 - (b) Preparation and coupling of antigens to Luminex microspheres
 - (c) Analysis of human- and other animal- derived samples using Luminex technology
- (3) Development of molecular biology methods (e.g., nucleic acids, metabolites, biochemical indicators) including appropriate characterization measurements (e.g., single lab/group ruggedness, sensitivity, selectivity, reliability, accuracy, precision and method detection limits as applicable to the method; QA/QC criteria to support routine application). Molecular biological methods include genetic population analyses (e.g., DNA fingerprinting and barcoding) and measurement in changes in tissue gene expression using reverse transcriptase polymerase chain reaction approaches potentially including QPCR and/or next generation sequencing-based methods. Indicators cut across various levels of biological organization (e.g., proteins, RNA/DNA, cells, organs, organ systems, individuals, populations, communities).

(G) GIS and modeling support:

- (1) Use GIS to preprocess data for input to models and for post processing of model output;
- (2) Apply GIS for hydroecological landscape analysis;
- (3) Prepare hydroclimatic data for input to models;
- (4) Calibrate and validate models;

- (5) Uncertainty estimation of model predictions and forecasting;
- (6) Conduct scenario model simulations and investigate impacts of environmental changes;
- (7) Couple models with optimization for application to management problems;
- (8) Code development of mathematical models; and
- (9) Development of physically-based and statistical/stochastic models.

(H) Research planning, analyses, and presentation:

The Contractor shall provide the following documentation, and perform the specified actions:

- (1) Work and test plan preparation;
- (2) Health and safety plan (HASP) preparation;
- (3) Quality Assurance Project Plan (QAPP) preparation, reviews, evaluations, and audits;
- (4) Process designs, drawings, and specifications;
- (5) Statistical design and data analysis;
- (6) Bioinformatic analyses;
- (7) Life Cycle Assessments and System Analyses;
- (8) Quantitative Risk Assessments;
- (9) Scientific database support for computer models;
- (10) Engineering and cost analyses;
- (11) Literature searches, reviews, and compilations;
- (12) Reports, journal articles, and conference presentations;
- (13) Work with select agents in a Biosafety Level-3 Laboratory meeting all the Select Agent Program regulations
(<http://www.selectagents.gov/Regulations.html>).

5. QUALITY ASSURANCE (QA) REQUIREMENTS

As part of the pre-award documentation, the Contractor shall provide as a separate and identifiable part of the technical proposal a Quality Management Plan (QMP) prepared in accordance with *EPA Requirements for Quality Management Plans*, EPA QA/R-2, EPA/240/B-01/002, March 2001. The QMP shall describe the Contractor's quality system relevant to the PWS and the *Policy and Program Requirements for the Mandatory Agency-Wide Quality System* (CIO 2105.0). The Contractor shall comply with the USEPA-approved QMP. Referenced USEPA quality system documents can be found at <https://www.epa.gov/quality/agency-wide-quality-system-documents>.

For this contract, the following additional contract-level quality assurance (QA) requirements shall be addressed by the Contractor's quality system:

- 1) The Contractor shall ensure that all subcontractors comply with all QA requirements levied on the contractor by USEPA.

- 2) The Contractor shall permit authorized representatives of USEPA to conduct QA assessments of contract-related activities. The Contractor shall participate in Performance Evaluation assessments as directed by USEPA. [EPA QA/G-7].
- 3) The Contractor shall comply with all requirements as delineated in each task order issued by the Contracting Officer. As directed by USEPA, QAPPs will be prepared by the contractor in accordance with *EPA Requirements for QA Project Plans*, EPA QA/R-5, EPA/240/B-01/003, March 2001. USEPA will specify the applicability of the graded approach for each task order (typically denoted as QA Category B research), in which a subset of EPA QA/R-5 requirements will be applicable. For projects identified by USEPA as QA Category A research, the Contractor shall perform at least one internal audit/assessment for each QA Category A research project to ensure compliance with the USEPA-approved QAPP. The Contractor shall provide these Contractor audit reports to USEPA upon request.
- 4) For USEPA deliverables involving environmental data or environmental technologies, the Contractor shall implement an internal document review process that includes review by the Contractor's QA Manager. The Contractor shall provide documentation of Contractor review to USEPA upon request.
- 5) The Contractor shall use standard methods and procedures such as Standard Methods for the Examination of Water and Wastewater, USEPA SW-846 test methods, and ASTM International methods, when they exist and are applicable to the research. SOPs developed for sample collection or analysis shall be approved by USEPA.
- 6) The Contractor shall comply with the USEPA policy titled *Policy to Assure Competency of Laboratories, Field Sampling, and Other Organizations Generating Environmental Measurement Data under Agency-Funded Acquisitions* <https://www.epa.gov/measurements/documents-about-measurement-competency-under-acquisition-agreements>. In addition, the contractor shall also comply with the following Office of Research and Development (ORD) Policies and Procedures Manual Section requirements: 13.2 *Scientific Recordkeeping: Paper*, 13.4 *Quality Assurance/Quality Control Practices for ORD Laboratory and Field-Based Research*, 13.6 *Scientific Recordkeeping: Electronic*. (See PWS Attachments)
- 7) The Contractor shall comply with the USEPA policy titled *EPA QA Field Activities Procedures* <https://www.epa.gov/irmpoli8/epa-qa-field-activities-procedures>.

6. SPECIAL REQUIREMENTS REGARDING CONTRACTOR'S ROLE WITH THE PUBLIC

To preclude any misunderstanding by the public when the Contractor attends and/or participates at conferences, meetings, etc.:

- (a) Contractor personnel shall be clearly identified as such through the use of name badges which state their affiliation;
- (b) Contractor personnel shall identify themselves as contractors during any introduction and/or presentation; and
- (c) Contractor personnel shall refer any questions relating to the interpretation of USEPA policy, guidance, and/or regulations to the Contracting Officer, CL-COR or TOCOR.

7. OCCUPATIONAL SAFETY, HEALTH, AND ENVIRONMENTAL MANAGEMENT

The Contractor shall maintain and manage an employee occupational safety, health and environmental management (SHEM) program to meet USEPA's requirements for on-site work performed at USEPA administered facilities and when performing fieldwork. The Contractor's SHEM program shall meet all Federal, State and local regulations. The Contractor's SHEM program shall include personnel training, environmental compliance emphasizing adherence to operating permits and licenses, and occupational safety and health management for all administrative and research tasks performed under the terms of the contract.

A job hazard analysis (JHA) must be performed for each employee to determine potential or actual workplace exposures to chemical, radiological or biological agents and/or physical stressors. Some employees may need to be enrolled in occupational medical surveillance programs for monitoring an activity or exposure currently regulated by the Occupational Safety and Health Administration. For example, all personnel wearing respiratory protection are required to have medical clearance to wear the prescribed respirator. The contractor may elect to follow **EPA Order 1460.1 Occupational Medical Surveillance Program** (Approval Date 04/20/2010) to determine participation in an Occupational Medical Surveillance program or the Contractor can administer their own enrollment criteria in accordance with the Contractor company's standard operating procedures or policies.

8. SECURITY REQUIREMENTS

Agency Security Requirements for Contractor Personnel

To safeguard the USEPA workforce and comply with Homeland Security Presidential Directive 12 (HSPD-12), Executive Order (E.O.) 13467, E.O. 13488 and Office of Personnel Management (OPM) regulations, the USEPA requires the following:

- **For Unescorted Access for 6 Months or Less**

Contractor employees needing unescorted physical access to a controlled USEPA facility¹ for 6 months or less must be determined by the USEPA to be fit before being issued a physical access badge (picture ID). A fitness determination is, per E.O. 13488, a decision by an agency that an individual has or does not have the required level of character and conduct necessary to perform work for or on behalf of a federal agency as a Contractor employee. A favorable fitness determination is not a decision to contract with an individual. Contractor employees must undergo, at a minimum, an FBI fingerprint check of law enforcement and investigative indices (see Section 2).

- **For Unescorted Access for More than 6 Months**

Contractor employees needing unescorted access to a controlled USEPA facility for more than 6 months are required to have an HSPD-12 smart card, called an EPASS badge. Eligible Contractor employees must have a completed or initiated background investigation at the National Agency Check and Inquiries (NACI) level or above, comply with all other investigative and HSPD-12-related requirements, and be determined by the USEPA Personnel Security Branch (PSB) to be fit (see Section 3). “Initiated” means that all initial security requirements have been met (paperwork is completed, submitted, and PSB-approved; favorable fingerprint results have been received; funding has been provided to cover the cost of the investigation; and PSB has sent notification that the individual may begin work).

To ensure timely contract performance, the Contractor must be prepared to immediately submit upon contract award the Contractor employee information detailed in Section 1.c. This applies also to incumbent Contractors’ employees for follow-on acquisitions. All Contractor employees under a new contract are subject to the requirements in Sections 2 or 3; however, the time needed to meet security requirements may be shorter for personnel who already have a favorable fitness determination.

Contractor employees may begin work on the contract start date provided all applicable documentation in Sections 1, 2, and 3 has been received by the USEPA and there is no derogatory information to preclude a favorable determination. Timely submission of Contractor employees’ security forms and other required documentation is essential.

A favorable determination may be revoked at any time should the USEPA discover

¹ A controlled facility is an area to which security controls have been applied to protect agency assets. Entry to the controlled area is restricted to personnel with a need for access.

derogatory information that deems a Contractor employee unfit. Contractor employees deemed unfit will not be allowed to continue under the contract, and the Contractor will be responsible for providing replacements acceptable to the USEPA.

The USEPA may make a determination of a Contractor employee's fitness at any of the following points:

- When the USEPA prescreens the individual's security forms. "Red flag" issues include:
 - Having been fired from a previous job or having left under unfavorable circumstances within the past 5 years (or longer, depending on the security form questions and type of investigation);
 - Failure to register with the Selective Service System (applies to male applicants born after December 31, 1959);
 - Within the past 5 years (or longer, depending on the security form questions and type of investigation), any arrest, charge, or conviction that has been upheld for violent or dangerous behavior or a pattern of arrests that demonstrates disregard for the law;
 - Illegal drug use within the previous year, or drug manufacture or other involvement for profit within the past 5 years (or longer, depending on the security form questions and type of investigation).
- When FBI fingerprint results are returned to the USEPA;
- When OPM returns the individual's investigative results to the USEPA;
- When the USEPA becomes aware that the Contractor employee may not be fit to perform work for or on behalf of a federal agency. The Contractor is responsible for monitoring its employees' fitness to work and notifying the USEPA immediately of any Contractor employee arrests or illegal drug use.

1) Initial Contractor Requirements

This section contains the Contractor's initial security requirements, which must be met before Contractor employees can perform work **on-site** at USEPA under this contract.

- a) The Contractor must identify a point of contact (POC) and alternate POC to facilitate security processes.
- b) The Contractor must ensure that all foreign nationals who will work under this contract have a valid U.S. Immigrant Visa or nonimmigrant Work Authorization Visa. The contractor must use E-Verify to verify employment eligibility as required by the FAR.
- c) The USEPA requires Contractor employee information for the investigative and EPASS processes. Immediately upon contract award or anytime new personnel are brought onboard, the contractor POC must log on to a secure, USEPA-identified portal, create an account, and submit complete contractor employee information: Full name (as found on employment records and driver's license), Social Security number, date of birth, place of birth (city, state, country),

citizenship, employee email address, USEPA Program Office or Regional Office, and USEPA work city and state. Note: Incomplete names, inaccurate names, and nicknames are unacceptable and may delay contractor employees' start date. Instructions and the portal link will be provided upon contract award.

- d) USEPA will provide the login information for the portal. After submission of the contractor employees' data, the Contract Level-Contracting Officer's Representative (CL-COR) will notify the contractor POC if additional information or corrections are required. The CL-COR's approval of the information triggers the investigative and EPASS processes.

2) Requirements for Contractor Employees Needing Unescorted Access for 6 Months or Less

This section contains the requirements for contractor employees who are not eligible for an EPASS badge but who need unescorted physical access. The minimum-security requirement is an FBI fingerprint check.

- a) Before the contractor employee can begin work on-site at the USEPA:
 - i) He/she must be fingerprinted by the USEPA; arrangements will be made by the USEPA.
 - ii) The contractor employee must satisfactorily respond to all questions/information requests arising from the USEPA's review of the fingerprint results.
 - iii) The USEPA must determine that the fingerprint results are favorable.

Once all requirements in Section 2(a) are met, the CL-COR/CO and contractor employee will be notified that the contractor employee can start work. Contractor employees will be issued a physical access badge and may work on-site at USEPA. Contractor employees must sign a receipt acknowledging responsibility to safeguard the badge and surrender it when required (see Section 4.b).

3) Requirements for Contractor Employees Needing Unescorted Access for more than 6 Months

This section contains the requirements for contractor employees who are eligible for an EPASS badge and who must have, at a minimum, a NACI background investigation completed or initiated. Contractor employees needing access to sensitive information or otherwise occupying moderate or high-risk positions must undergo an investigation above the NACI level. The USEPA will assign a position risk level to each position on the contract and identify which contractor employees are EPASS-eligible.

- a) EPASS-eligible contractor employees must undergo a background investigation appropriate to the risk level of the position occupied, as specified by the USEPA; the minimum acceptable investigation is a NACI.

- b) Employees who have previously undergone a federal background investigation at the required level and who have worked for or on behalf of the federal government without a break in service since the investigation was completed may not need a new investigation. The USEPA will verify the investigative information and notify the contractor employee and CL-COR if a new investigation is required. If an investigation is not needed, the contractor employee must still be fingerprinted by the USEPA for an FBI fingerprint check and have favorable fingerprint results returned before beginning work on-site at USEPA.
- c) Before beginning work on-site at the USEPA, contractor employees who require a new background investigation must:
 - i) Complete and submit the appropriate OPM security questionnaire specified by the USEPA via OPM's e-QIP system. Access to e-QIP will be provided by the USEPA; the questionnaires are viewable at www.opm.gov/forms. Foreign national contractor employees must, on the security questionnaire, provide their alien registration number or the number, type, and issuance location of the visa used for entry to the United States.
 - ii) Must also complete the OF 306, Declaration for Federal Employment, as required by OPM, and available at http://www.opm.gov/forms/pdf_fill/of0306.pdf. Contractor employees must answer questions 1-13 and 16, then sign the form on the "Applicant" line, 17a.
 - iii) For an investigations at a higher level than a NACI (i.e. MBI or BI; where an SF-85P, Questionnaire for Public Trust Positions, is used), also complete the USEPA Credit Release, Form 1480-90 (<http://intranet.epa.gov/oa/smd/pdfs/epa-credit-release-authorization.pdf>).
 - iv) Follow all instructions on the form(s), answer all questions fully, and submit signature pages as directed by the USEPA.
 - v) Be fingerprinted by the USEPA; arrangements for fingerprinting will be made by the USEPA.
 - vi) Satisfactorily respond to all questions/information requests arising from the USEPA's review of the forms or fingerprint results.
 - vii) Receive favorable fingerprint results.
- d) Once all requirements in Section 3(c) are met, the CL-COR/CO and contractor employee will be notified that the contractor employee can start work. Contractor employees may work on-site at USEPA while OPM conducts the background investigation.
- e) At a time and location specified by the USEPA, contractor employees must report in person for EPASS identity (ID) proofing and show two unexpired forms of identification from the lists on Department of Homeland Security Form I-9. At least one of the documents must be a valid, unexpired state or federal government-issued photo ID; non-U.S. citizens must show at least one ID from Column A on Form I-9.

- f) Before being issued an EPASS badge, contractor employees must sign a receipt acknowledging responsibility to safeguard the badge and surrender it when required (see Section 4.b). Contractor employees must meet all EPASS badge life-cycle requirements.
- g) A Contractor employee has the right to appeal, in writing through the contractor POC to the CL-COR/CO, the denial or revocation of an EPASS badge. If the CL-COR/CO believes the appeal is justified, he/she will forward it to the Security Management Division (SMD). SMD's decision on behalf of the USEPA will be final.

4) Ongoing Contractor Security Responsibilities

- a) The Contractor POC must immediately provide updated information via the secure portal when new contractor employees are added to the contract. These contractor employees must meet all initial investigative requirements before beginning work on-site at USEPA. The contractor POC must also update information via the secure portal whenever a contractor employee leaves the contract.
- b) The contractor POC must ensure that all EPA physical access and EPASS badges are returned to the CL-COR as soon as any of the following occurs, unless otherwise determined by the Agency: (i) when the badge is no longer needed for contract performance; (ii) upon completion of a contractor employee's employment; (iii) upon contract completion or termination.
 - i. When non-federal personnel have been issued an USEPA EPASS badge, the Contractor shall notify the CL-COR and the TOCOR at least five (5) days prior to a departure or removal from the extramural vehicle (for contracts, notification shall be at least fifteen (15) days prior for key personnel; in accordance with requirement 1552.237-72, *Key Personnel*). The Contractor shall provide notification within four hours for any involuntary termination(s). Prior to any Non-Federal personnel's departure, issued USEPA EPASS badge(s) shall be gathered and returned to the CL-COR on this contract.
 - ii. Email notification is sufficient and shall include the following necessary information, which will be used to fill out USEPA ORD's dPROV system for processing:
 - 1. Full Name of contractor staff
 - 2. Work Force ID #: To find ID #:

<http://asq.epa.gov/index.php>

3. Non-Federal personnel's EPA email
4. Location: City/EPA facility/bldg./Room # or if off-site vendor/recipient site
5. Non-Federal personnel's USEPA telephone number or if off-site vendor/recipient telephone number
6. Identify whether non-fed shares or has their own computer. If they are using an USEPA provided, computer, identify the ORD decal number

- c) These USEPA security requirements must be incorporated into all resulting subcontracts wherein contractor personnel working under the subcontract require USEPA physical access.

Additional Security Requirements for Biosafety Level-3 Facilities-

All individuals working in the Biosafety Level-3 Laboratory shall undergo a Select Agent Program security risk assessment conducted by the U.S. Department of Justice as well as a personnel surety investigation performed by the Biosafety level-3 laboratory responsible official (<http://www.selectagents.gov/>).

TRAINING REQUIREMENTS

The Contractor shall complete all mandatory EPA-provided training for all on-site contractors and subcontractors. Training may include, but is not limited to, the following:

Annual Records Management
Information Security and Rules of Behavior Protecting Sensitive Information
IT Security and Privacy Awareness Training
Environmental Management Systems/Safety and Health Management Systems Training
Occupational, Safety and Health Training

PWS Attachments
Office of Research and Development (ORD)
Policies and Procedures Manual Section Requirements

Attachment 1

13.2 *Scientific Recordkeeping: Paper*
14 pages

Attachment 2

13.4 *Quality Assurance/Quality Control Practices for ORD Laboratory and Field-Based Research*
15 pages

Attachment 3

13.6 *Scientific Recordkeeping: Electronic*
14 pages

ORD Policies and Procedures Manual

Chapter 13 – Quality Assurance

13.2 SCIENTIFIC RECORDKEEPING: PAPER

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ORD Policies and Procedures Manual

Chapter 13 – Quality Assurance

ACRONYMS AND ABBREVIATIONS

DCN	Document Control Number
GPO	Government Publishing Office
NHEERL	National Health and Environmental Effects Research Laboratory
ORD	Office of Research and Development
PI	Principal Investigator
PPM	Policy and Procedure Manual
QAM	Quality Assurance Manager
QAPP	Quality Assurance Project Plan
SOP	Standard Operating Procedure

POLICY STATEMENT

The purpose of this policy is to establish the minimum requirements for recording research activities using hard copy (paper) documentation. Accurate documentation and maintenance of paper documentation, along with electronic records, is essential to ensure that research activities, procedures, and results are accessible and reproducible.

This policy is intended for Office of Research and Development (ORD) in-house research; however, individual organizations have discretion in applying this policy to work performed under extramural vehicles. For example, the Contracting Officer or Contracting Officer's Representative may invoke this policy as part of an extramural agreement if the extramural organization does not have an equivalent policy in place and/or the policy is deemed essential for the EPA-funded work, which would typically be the case for extramural research performed on site. Ways that this policy may be invoked are through the solicitation or Performance Work Statement, or referenced in the extramural organization's Quality Management Plan or Quality Assurance Project Plan (QAPP).

REFERENCES

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- (2) EPA Office of Research and Development (ORD). Policies and Procedures Manual, Section 13.6. *Scientific Recordkeeping: Electronic*; current version.
- (3) EPA Records Schedule 1035 <http://intranet.epa.gov/records/schedule/final/1035.html>
- (4) U.S. Government Publishing Office (GPO). Code of Federal Regulations, Title 40, Part 160, Federal Insecticide, Fungicide, and Rodenticide Act. *Good Laboratory Practice*

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https://intranet.ord.epa.gov/p2/sites/default/files/media/NHEERL/qa/recordkp_gui.pdf.
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BACKGROUND

Complete documentation of research activities is essential for the Agency to fulfill its mission. Research performed by ORD may be used in scientific, legal, administrative, and other contexts. The research record must:

- o Document and preserve the research data and activities;
- o Provide a reference for guidance in related work;
- o Enable the continuity of operation; and
- o Furnish adequate information so others of equal or higher technical education and experience may fully understand or replicate the research.

Scientists have historically relied upon the use of research records to meet these documentation needs, and, in particular, have relied on the research notebook and associated paper documentation (forms, logbooks, etc.). Certain conventions have evolved over time with respect to keeping research documentation, particularly with respect to the use of the research notebook. While the focus of this PPM is research involving measurement science, it also applies to other research types, e.g., modeling, use of existing data. As documentation moves from paper to electronic records, the requirements listed above remain in place. These and other requirements of electronic record keeping are documented in PPM Section 13.6 (2).

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The practices in this policy also apply to field records developed during the conduct of field data collection activities.

DEFINITIONS

Electronic Research Records

The collective term used for research notes, data, databases, and other research project materials that are either collected and/or stored electronically.

Paper Research Records

The collective term used for research notebooks, logbooks, compilations of data on pre-printed forms, and instrument print-outs.

Project Record (aka Study File)

Refers to all records (paper and electronic) that were generated during the course of a specific research activity including, but not limited to, planning documents (e.g., Research Action Plans, Quality Management Plans, QAPPs); operating procedures; project-specific research notebooks; project-related correspondence; raw data; instrument calibration and maintenance logs; reports generated as a result of a quality or peer review; and products (e.g., podium presentations, posters, journal articles, EPA 600 reports, book chapters, and/or reports to Congress).

Additionally, test substances, cell lines, tissues, microscope slides, etc. are considered to be part of the project record for studies conducted according to Good Laboratory Practice (GLP) Standards (1)(4), but neither the Federal Records Center nor the National Archives and Records Administration will accept these types of records so they must be archived by the sponsoring organization under appropriate conditions of storage to minimize deterioration during the required time period, as described in the GLP Standard.

An index and location of all records in the project record should be maintained.

Records

Refers to all recorded information, regardless of form or characteristics, made or received by a Federal agency under Federal law or in connection with the transaction of public business and preserved or appropriate for preservation by that agency or its legitimate successor as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities of the United States Government or because of the informational value of data in them.

Supporting Research Information

Refers to records that provide ancillary data about experimental conditions that may influence the quality of the research. Examples of this supporting information includes:

- Instrument use (date, user, samples, method);
- Instrument maintenance (date, responsible person, description of maintenance activities);

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- Calibration or calibration check (date, calibration standards used, person performing the calibration or check, acceptability of results);
- Standard preparation (date prepared, analyst, concentrations, procedures, expiration date);
- Temperature monitoring (date, person recording temperature readings, acceptability of readings); and
- Standard materials (manufacturer, lot number, purity, concentration, expiration date).

RESPONSIBILITIES

Principal Investigator (PI)

The PI is responsible for ensuring that this policy is implemented for their projects, which includes: 1) training of project personnel (federal scientists, contractors, post-docs, etc.) on the requirements of this policy before research activities begin, 2) management of research records, and 3) retention of records.

Quality Assurance Manager (QAM)

Periodically, the QAM may conduct a surveillance of research notebooks to ensure the requirements for research records are effectively implemented within their organizational unit. This periodic review and assessment of research records will ensure the effective implementation of research record practices.

Record Liaison Officers (RLO)

Record Liaison Officers shall provide overall guidance regarding scientific record keeping and shall assist in the final archiving of scientific records. When requested, they shall create custom sites for records when scientists leave the EPA.

Supervisor

The Supervisor is responsible for ensuring that PIs receive appropriate training relative to this policy. Periodically, the supervisor should discuss the requirements for and use of research records with their PIs. The Supervisor should also periodically review research records to ensure that research documentation is accurate, legible, and complete. Periodically, the supervisor in consultation with the organizational QAM may request a surveillance of research notebooks be conducted to ensure the requirements for research records are effectively implemented within their organizational unit. This periodic review and assessment of research records will ensure the effective implementation of research record practices.

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PROCEDURES

Research Notebooks

While both paper and electronic research notebooks are in use in ORD today, a paper research notebook (also referred to as a laboratory notebook or field notebook) may still serve as the chief means for documenting as-conducted research activities and providing the details for the day-to-day data collection effort following the planning stage (i.e., research work plan and QAPP development). In this case, the paper research notebook serves as the primary record for documenting the research effort. For paper notebooks, case-bound notebooks with a table of contents, pre-numbered/archival quality pages, and signature lines for completed pages provide an adequate media for the written record and long-term storage of the record. For field activities, notebooks with waterproof pages are recommended. Research notebooks that meet these requirements are available from ORD QAM.

Research notebooks must identify the individual that was assigned the notebook, the organization, the assigned date, research project(s), and if applicable, the notebook ID. Some ORD organizations also have a master list to track the issuance of pre-numbered research notebooks. Organizations that elect to track research notebooks need to include information on that process in their Quality Management Plan or Standard Operating Procedure (SOP). Research notebooks must cite the associated research planning documents (i.e., QAPP and/or research work plan(s)). Cross-referencing the research notebook to the research planning documents will allow the research to be reproduced if necessary, and allows for convenient referencing/citing of implemented planning document sections. As the record of research activities, the research notebook should contain a log of daily research activities, which includes an explanation of why that specific activity is being performed, observations, conclusions, and reference information for related project records that are generated and stored in other media (e.g., computer filenames, forms, instrument print-outs, and computers), as appropriate.

See Exhibit 1 for an example of a properly completed entry in a research notebook. The following requirements are demonstrated in this example: title, signature (or initials) following a completed entry, date, and reference to other documentation (e.g., SOPs).

Instrument/ Equipment Logbooks

Logbooks are used to document supporting research information that is applicable to multiple projects, such as user records for instruments/equipment, instrument maintenance, standards preparation and materials, calibration, and temperature monitoring. If the supporting information is applicable to a single project, it can be documented in the research notebook, rather than in logbooks. A single, dedicated logbook can be used for each instrument to document many activities. For example, one logbook dedicated to a gas chromatograph could contain all of the supporting research information, including instrument use, maintenance, and calibration. Alternatively, separate logbooks can be used to document each activity.

Case-bound student composition notebooks and hard-bound General Services Administration “green” record books may be used for logbooks. Be aware however, these books are not archival quality and the writing could fade if placed in long-term storage. Pre-printed logs provide

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consistency in documentation of required information and may also be used as logbooks, provided they are managed as bound pre-printed forms (see Pre-Printed Forms and Instrument Print-Outs section).

Pre-Printed Forms and Instrument Print-Outs

Pre-printed forms may be used to efficiently document routine data collection activities. Instrument print-outs contain the data generated by an instrument, including calibration and sample results.

If data are collected on pre-printed forms or as instrument print-outs, three-ring binders may be used. The use of three-ring binders for maintaining compilations of photographs, data forms, printouts, etc., presents both advantages and disadvantages to the integrity of research records, and both should be carefully weighed in planning each project. Such pages can either be consecutively numbered within each three-ring binder or they can be labeled by section and consecutively numbered within that section. The project title, the data collector's initials, and the date of collection must be clearly identified in each data set in the three-ring binder.

The use of pocket folders to hold loose sheets of paper containing data is not appropriate because it is easy to mistakenly insert records out of chronological order. Also, loose sheets are prone to falling out of the pockets.

Management of Documentation under Isolation Conditions

For projects where the research will be conducted in a location where the paper records may become potentially contaminated (e.g., Bio-Safety Research), and the research is anticipated to be conducted over a period of time, the recommended practice to maintain the chronological integrity of the research record(s) would be to use bound books that remain in the controlled areas, and electronically transferring completed pages (e.g., scanning, digital photographs, faxing, etc.) to the support (controlled) areas for reference. Electronically transferred copies that are printed should be managed as Pre-Printed Forms (see Pre-Printed Forms and Instrument Print-Outs section). If at the end of the project it is not possible to release the original record from the controlled area, the transferred copy of the original record will become the archive record, and a note should be included in the project record/ study file in regards to the disposition of the original record.

Research Record Formatting and Maintenance Requirements

- Records Must Be Signed

Each entry in a shared notebook or logbook maintained by more than one individual must be signed (initials are acceptable) and dated. Notebooks assigned to and maintained by a single individual must clearly indicate that on the notebook title page.

- Only Permanent, Dark, Non-Fading, Acid-Free Ink Must Be Used

The ink must not be soluble in water or any solvent to which it may be exposed. The ink must produce legible photocopies and not be affected by the photocopying process. Stamp pads may

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be used as long as the ink is of archival quality. Ink must be a dark color (e.g. black or blue). Light colored ink, especially red, should be avoided because it tends to fade with time and light exposure. If pencil or thermal-printers MUST be used, the researcher must photocopy the data as soon as possible, and store both the printout and the photocopy as appropriate with other research records.

- Pages Must Not Be Removed

Pages must not be removed from research notebooks, logbooks or binders, because the integrity of the research record is then compromised, both in terms of chronology, completeness, and authenticity. Skipped or damaged pages should remain in the book and be crossed out to indicate that they are unused.

- Inserted Loose Sheets Must Be Affixed by a Permanent Method

Loose sheets (e.g., data, drawings, graphs) inserted into a bound book must be carefully affixed in the research record by a permanent method (e.g., archive quality adhesives such as acid-free archive tape and glue; also available as scrapbooking tape and glue). A line must be drawn across the corner of a loose sheet which has been affixed onto the research notebook page, in such a way as to indicate that the sheet has been joined to the page as part of the entry. The individual making the entry must also initial the sheet after it has been affixed to the page. If loose sheet is the same size as the laboratory notebook page, the sheet may be fixed to the blank notebook page, the corners of both pages turned down & fixed, a line drawn across the corner extending onto the affixed loose sheet and signed. This is to ensure that the affixed sheet cannot be removed without leaving a clear indication that the record has been altered.

Temporary measures such as paper clips and post-it notes may only be used as temporary location flags.

- Data Must Be Recorded in the Research Record as it is Taken

Information must not be written on loose paper and then recopied into the research record. If the research record is not available when information is collected, loose paper shall be affixed in the research record.

- Chronological Order Required

Entries in research records must be in chronological order throughout without blank pages between entries. The record may also be organized in topical sections that maintain chronological order without blank pages for entries within each section. To start an entry on a new page of a research notebook, a diagonal line shall be drawn through any unused portion of the previous page. The line shall be initialed and dated. If results are obtained at a later date, they shall be referenced to the earlier entry. Blank pages are only allowed if used to create sections with a specific intended purpose. For example, if a project involves several experiments

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or assays that generate print-outs, data forms, or other loose-leaf records, the research record may be organized by experiment or data type, and chronologically within such sections.

- Proper Error Correction Procedures Must Be Used
 - The error must be marked out with a single line that does not obscure the original record. The correction, the initials of the person making the correction, and the date must be added.
 - Erasures, “white-out,” and blocking out an entry to make it illegible are not acceptable.
- Abbreviations and Acronyms Must Be Defined

If not defined in the QAPP or project-specific SOP(s), abbreviations and acronyms must be clearly defined at the beginning of the research notebook; however, a best practice is to define all acronyms and abbreviations used in the notebook.

Training on Research Record Documentation

Supervisors are responsible for ensuring that PIs receive training about the requirements of this policy. PIs are responsible for ensuring that new project personnel (federal scientists, student contractors, post-docs, etc.) working on their projects are trained on this policy before research activities begin.

Research records of all new research personnel must be reviewed by PIs (or their designees) periodically until compliance with this policy has been demonstrated. These reviews must be documented and the signature and date of the review documented on the last page reviewed. Additional training must be provided, if determined to be necessary, so that compliance is demonstrated within six months of the beginning of research activities.

Review

It is recommended that research records be periodically reviewed to ensure that research documentation is accurate, legible, and complete. Records can be reviewed by the PI (excluding records generated by the PI), supervisors, peers, or QA staff. The recommended frequency, nature of the review, and reviewer is dependent on the intended use of the data. High profile research records may warrant more frequent reviews. Completion of the review shall be documented by the reviewer (e.g., signature and date of the reviewer). Deficiencies and proposed remedies shall also be noted. See Exhibit 2 for an example notebook review checklist. The PI is responsible for ensuring that complete and accurate research records are maintained.

Research Records and Patents

For research activities, which are likely to or could potentially result in a patent application, each research record page must be signed and dated by a witness who has confirmed that the entries were made on the date indicated. Witnessing by someone who understands the technical content of the entry, but has no vested interest in the patent, provides the strongest evidence of priority of

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proof of invention. Additional training on matters concerning intellectual property is available (<http://intranet.ord.epa.gov/p2/ftta/ftta-training>).

Management of Paper Research Records Using a Project Record

When paper research records form the core of the project record they must be dedicated to a specific project, research area, or research activity to help ensure that research documentation can be clearly identified, easily retrieved, and logically organized for storage according to Agency records schedules. Clear and explicit supporting research information, for example an instrument log book, for each separate project record must be available and managed according to applicable records schedules. Management of research records is the responsibility of the PI, who must maintain a records management system that allows for easy retrieval of research notebooks, logbooks, and data compilations.

Storage and Disposition

Planning documents are maintained by the PI during the life of the project and, after the project has been completed, they must be included as part of the project record along with research notebooks and all other project-specific records. The retention and disposition of research records must be in accordance with the Agency's National Records Management Program, led by the Office of Environmental Information. The pertinent EPA records schedule for research records is 1035 (4).

DELEGATIONS

Senior Information Official, Office of Research and Development

APPROVAL

JERRY BLANCATO

Digitally signed by JERRY BLANCATO
DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff,
cn=JERRY BLANCATO, dnQualifier=0000001083
Date: 2017.11.17 09:19:01 -05'00'

Senior Information Official for Research and Development

Date

Effective six months following approval date.

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EXHIBIT 1 – Example Research Notebook Entry

Project No. _____

Confidential Book No. _____ TITLE Preparation of Calibration Curves for Ada Sa

From Page No. _____

5/23/16

A 50 µg/ml surrogate stock solution prepared on 11/4/15 (P130) was diluted to lower concentration stock solutions through 10X dilutions as follows:

5000 µg/L : 1ml of 50 µg/ml into 9ml of methanol.

500 µg/L : 5000 µg/L
 50 µg/L : 500 µg/L
 5 µg/L : 50 µg/L

A 50 µg/ml internal standard stock solution prepared on 11/4/15 (P131) was diluted to lower concentration stock solutions as follows:

5000 µg/L : 1ml of 50 µg/ml into 9ml of methanol.

500 µg/L : 1ml of 5000 µg/L (GA 5/23/16) into 9ml of methanol.

Two separate calibration curves were prepared using 6 compound VOC mix spiking stock solutions prepared on 9/14/15 (P112) and 2 compound VOC mix spiking stock solutions prepared on 5/20/16 (P167) respectively. Standards were prepared as follows:

PPT (ng/L)	Spike Amt.	Surr. Amt.	IS Amt.
10	30µL of 5µg/L	30µL of 5µg/L	30µL of 500 µg/L
50	15µL of 50 µg/L	15µL of 50 µg/L	30µL of 500 µg/L
100	30µL of 50 µg/L	30µL of 50 µg/L	30µL of 500 µg/L
250	75µL of 50 µg/L	75µL of 50 µg/L	30µL of 500 µg/L
733	22µL of 500 µg/L	22µL of 500 µg/L	30µL of 500 µg/L
1000	30µL of 500 µg/L	30µL of 500 µg/L	30µL of 500 µg/L
5000	15µL of 5000 µg/L	15µL of 5000 µg/L	30µL of 500 µg/L
10000	30µL of 5000 µg/L	30µL of 5000 µg/L	30µL of 500 µg/L
Check 250	75µL of 50 µg/L	30µL of 500 µg/L	30µL of 500 µg/L
SS Check	30µL of 100 µg/L	30µL of 500 µg/L	30µL of 500 µg/L

GA
5/23/16

A single 5000 ppt ^{standard} sample was prepared (GA 5/23/16)

Sequimie VOCs - 06042016
Date: Dillingham/VOCs/2016
06042016

Witnessed & Understood by me, chris Date _____

Invented by: _____ Date _____

Recorded by: G. Akelike Date 5/23/16

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EXHIBIT 2 – Example Notebook Checklist

CHECKLIST FOR REVIEW OF RESEARCH RECORDS

Notebook Custodian: _____ Branch: _____
 Review Date: _____
 Principal Investigator/Project Lead: _____
 Project Title: _____
 QAPP Number: _____
 Reviewer (name/title): _____
 Supervisor's Assessment: ___ Compliant ___ Not Compliant with ORD PPM 13.2 (if not, next review date _____)
 Signature and Date: _____

Supervisor _____

QA Manager _____

REVIEW QUESTIONS	RESPONSE			COMMENTS
	Y	N	N/A	
A. Notebook Requirements				
1. Are notebooks bound, archive quality (supplied by QAM) or three-ring binders? Describe type(s) of notebooks.				
2. Does the cover of every notebook include:				
• Project ID (QAPP number and study title) – research notebook				
• Names of notebook custodian				
• Inclusive dates of study				
3. Is permanent ink used for notebook identification?				
4. Is the following information provided in the front of each research notebook?				
• Index cross-referencing all project notebooks and electronic files				
• Names and initials of study participant(s)				
• Table of Contents				
• List of abbreviations and acronyms				
5. If notebook is not dedicated to a single project, is every page or entry of the notebook labeled with the following information:				
• Project ID, notebook number – research notebook				
• Page number				
• Experiment title – research notebook				
• Initials of person recording data				
• Date (month, day, year)				

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REVIEW QUESTIONS	RESPONSE			COMMENTS
	Y	N	N/A	
6. Is dark permanent ink used to document research activities?				
7. Is archival quality (permanent, neutral pH) glue or tape used to affix loose data sheets and photographs to notebook pages?				
8. Is a line drawn across affixed data onto the notebook page, initialed and dated?				
9. Is there any evidence that pages have been removed from the notebooks?				
10. Are blank pages marked with a diagonal line?				
11. Has the notebook been reviewed by a peer to ensure complete, accurate and legible documentation of research activities? Note: notebook reviews are strongly recommended but not required.				
12. For projects for which a patent application is anticipated, has every notebook page been signed and dated by a witness?				
B. Documentation Requirements				
1. Is the purpose for each activity documented (research notebook)?				
2. Are Operating Procedures cited? If not, is complete experimental detail provided?				
3. Are table, row, and column titles completely described?				
4. Are units of measure documented?				
5. Is supporting information (calibration, maintenance, etc.) documented?				
6. Are errors corrected with a single strike-through, initials and date?				
7. Are activities documented in chronological order or chronologically by section?				
8. Are pre-printed data sheets labeled with complete project and experimental detail?				
C. Comments				

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APPENDIX A – Training

Chapter 13 of the ORD Policies and Procedures Manual focuses on quality assurance (QA) for ORD's research. Training for Chapter 13 is made available in several ways, as follows:

- One-on-one training with a QA Manager.
- Self-directed training using Power Point slides and/or recorded webinars are available on [ORD@Work](#).
- Group classroom style training, available by request.
- Group training via webinar which is scheduled for newly approved sections of Chapter 13.

Training for QA Managers (QAMs) by ORD senior QA staff will precede delivery of training by QAMs to research staff.

Questions about training can be directed to any member of ORD's [QA staff](#).

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SECTION 13.4 - QUALITY ASSURANCE/QUALITY CONTROL PRACTICES FOR ORD LABORATORY AND FIELD-BASED RESEARCH

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LIST OF ACRONYMS

ANSI	American National Standards Institute
APPCD	Air Pollution Prevention and Control Division
CFR	Code of Federal Regulations
CRM	Certified Reference Material
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
LCA	Laboratory Competency Assessment
LOP	Laboratory Operating Procedure
MDL	Method Detection Limit
NIST	National Institute of Standards and Technology
ORD	Office of Research and Development
PI	Principal Investigator
PPM	Policy and Procedure Manual
QA	Quality Assurance
QC	Quality Control
QAM	Quality Assurance Manager
QAPP	Quality Assurance Project Plan
QMP	Quality Management Plan
SOP	Standard Operating Procedure
SRM	Standard Reference Materials
UV	Ultraviolet

POLICY STATEMENT

It is Office of Research and Development (ORD) policy that all laboratory and field-based research be conducted in a manner that meets or exceeds the basic quality assurance (QA)/quality control (QC) practices identified in this document. This policy addresses QA/QC minimum requirements for calibration, maintenance, and documentation for data generated to support ORD research. These QA/QC minimum requirements apply to both laboratory and field data collection activities.

This policy is intended for in-house ORD research and must be incorporated into the language for all extramural vehicles for work performed on site at EPA. Individual organizations have discretion in applying this policy to work performed under off site extramural vehicles.

REFERENCES

- (1) EPA, Office of Environmental Information. *EPA QA Field Activities Procedure*; CIO 2105-P-02.0, 2014. <http://www2.epa.gov/irmpoli8/epa-qa-field-activities-procedures>.

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- (8) U.S. Government Publishing Office Code of Federal Regulations, Title 40, Part 136, Appendix B. *Definition and Procedure for the Determination of the Method Detection Limit; 2011*. <http://www.gpo.gov/fdsys/pkg/CFR-2011-title40-vol23/pdf/CFR-2011-title40-vol23-part136-appB.pdf>.

BACKGROUND

Data generation and collection activities that are conducted in the laboratories and field by EPA ORD vary widely. Many of the practices in this policy apply to both laboratory and field data collection activities including calibration, maintenance, proficiency, documentation, and assessment. In addition, the processes of measurement or analysis and collection of data inherently possess a number of common features, no matter the methodology involved.

This policy provides basic required QA/QC practices for ORD units conducting laboratory or field research and related activities such as measurement or experimental set-up and collection of data in the field. More specific policies or Standard Operating Procedures (SOPs) with additional requirements may supersede this one where they exist and are applicable.

DEFINITIONS

Analytical Instrumentation

It is useful to introduce the category of analytical instrumentation for describing QA/QC practices typically associated with complex measurement systems. However, depending on use, QA/QC for analytical instrumentation may be similar to QA/QC for supporting equipment. Examples of analytical instruments are provided.

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The term “Analytical Instrumentation” refers to devices including, but not limited to, gas chromatographs, gas chromatographs/mass spectrometers, inductively coupled plasma-optical emission or mass spectrometers, atomic absorption spectrophotometers, high performance liquid chromatographs, microscopes used for quantitative measures (e.g., scanning electron microscopes, transmission electron microscopes), gas proportional counters, gamma spectrophotometers, and meters for pH, conductivity, and dissolved oxygen. Field instruments include but are not limited to data sondes, various meters (e.g., anemometers, pH meters, conductivity meters), particle size analyzers, and portable spectrophotometers.

Facility Manual

A facility manual is an optional document that describes an EPA on-site facility and its capabilities, documents its management and staffing structure, personnel responsibilities, training requirements and records, provides operating procedures, and establishes basic recordkeeping requirements. The purpose of a facility manual is to document facility status, and facilitate maintenance and improvement of the efficiency and quality of operations. The facility manual is intended for internal use within the facility only. It is reviewed and approved by ORD facility management, quality assurance (in QA matters), and safety personnel. This is not a Quality Management Plan (QMP). In the event of an assessment, the information in the facility manual may be made available to the assessor to provide additional details about a facility’s analytical capabilities and/or if needed to support QA practices.

Laboratory

An area equipped for scientists to make measurements.

Laboratory Records

“Laboratory records” is the collective term used for, but is not necessarily limited to, manuals, protocols, research notebooks, logbooks, compilations of data on pre-printed forms, instrument print-outs, and computer-resident notebooks and data that document the preparation, analysis, and results of data generation and collection activities. Laboratory records are maintained as per Record Schedule 1035 (6).

Principal Investigator (PI)

The PI is the person who is responsible for the technical leadership of the research on which he/she works, including the generation and execution of the quality assurance project plan (QAPP) as well as the implementation of this policy.

Quality Assurance Project Plan

A QAPP is a document describing in comprehensive detail the necessary quality assurance, quality control, and other technical activities that must be implemented to ensure that the results of the work performed will satisfy the stated performance criteria. In most cases QAPPs will be written for “tasks” described in ORD’s research action plans or even lower aggregations of research (e.g., sub-task, research effort, etc.).

Quality Management Plan (QMP)

A QMP is a (planning) document that describes a quality system in terms of the organizational structure, policy and procedures, functional responsibilities of management and staff, lines of

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authority, and required interfaces for those planning, implementing, documenting, and assessing all activities conducted.

Standard Operating Procedure (SOP)

SOPs are detailed descriptions of a repetitive function (e.g., analytical method, procedure, or technique) written to a level of detail that, when followed, allows the function to be performed in the same way with the same results between personnel and over time. Some ORD organizations may use variations on the name for the procedure, e.g., Operating Procedure, Research Operating Procedure, Laboratory Operating Procedure, Standard Operating Approach, and Miscellaneous Operating Procedure. However, the intent is the same, i.e., documenting the procedure used for an analytical method, procedure, or technique.

Supporting Equipment

It is useful to introduce the category of supporting equipment for describing a certain set of QA/QC practices. However, depending on use, QA/QC for supporting equipment may be similar to QA/QC for analytical instrumentation. Examples of supporting equipment are provided.

Supporting equipment includes but is not limited to balances and associated weights, pipettes, centrifuges, freezers, incubators, refrigerators, steam autoclaves, thermometers/thermocouples (working and reference), reagent water systems, thermocyclers, and ultraviolet (UV) lights (used to disinfect hard surfaces). See Exhibit 1 and Exhibit 2 for supporting equipment calibration and verification checks.

RESPONSIBILITIES

Non-Federal On-site Employees

On-site grantees, visiting scientists, students, and contractors that work in ORD laboratories or on ORD field studies are required to comply with this policy. Specific responsibilities include, but are not limited to, performing calibrations of analytical instrumentation, and documenting necessary user verification checks of equipment used for laboratory or field research activities. Contract procedures for on-site contractors must incorporate this requirement. For other parties, the mentor/host must ensure that these procedures are followed.

Principal Investigator and Other EPA Staff

The PI's responsibilities are limited to project management issues and as such the PI is responsible for ensuring that this policy is implemented for their projects. Specific responsibilities include ensuring that other on-site employees involved in the PI's projects are knowledgeable and trained to fulfill their daily responsibilities with respect to the maintenance, calibration, and user verification requirements of this procedure for equipment and instrumentation used in the project. PIs are also responsible for participating in audits and surveillances, and for ensuring any correction actions are implemented.

Other EPA staff are responsible for implementing this policy and fulfilling their daily responsibilities as noted above.

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Quality Assurance Manager

The QAM or designee shall conduct an internal audit (using this policy, PPM 13.4, as the audit standard) for each laboratory (see definition) in their respective divisions on a schedule such that all laboratories (including contractor operated laboratories) are assessed at least once every three-year period.

The QAM or designee is responsible for coordinating calibration services for supporting equipment in the requirement timeframes and maintaining records of these services.

Supervisor

The supervisor is responsible for ensuring that all personnel in his/her organizational unit are aware of the requirements of this policy and that it is implemented rigorously and thoroughly (e.g. by supporting internal audits and necessary correction actions). Employee performance issues, as related to this policy, are the responsibility of the supervisor.

PROCEDURES

Laboratory Records

Research activities shall be sufficiently documented to allow reconstruction of those activities by someone of comparable education and training. Documentation of activities can be recorded in research notebooks, electronic files, logbooks, and other appropriate media. Refer to PPM 13.2 (2) and PPM 13.6 (3) for further discussion of laboratory recordkeeping requirements.

Standard Operating Procedures

If a standard or citable procedure is not explicitly followed, such as an EPA method or ASTM International Standard, SOPs shall be prepared to document analytical procedures that will be performed routinely or that will be implemented by multiple personnel. Other situations may also warrant the generation of an SOP (e.g. to allow more flexibility in the method). SOPs or other documented standard procedures shall be available in the laboratory or field area where the procedure is implemented. Existing SOPs shall be reviewed every two years to ensure that they reflect current practice, and these reviews shall be documented.

Instrument and Equipment Calibration/Maintenance

All activities discussed in this section shall be documented following the requirements of PPM 13.2 (2) and PPM 13.6 (3), and include identification of the equipment or instrument, user, date, activity performed, and results or observations. All analytical instruments shall be properly maintained and calibrated on a regularly scheduled basis with documentation of these activities. Documentation may be made in paper or electronic laboratory records maintained by the PI or other employee (for project-dedicated instruments), or in instrument logbooks maintained in the laboratory or field (for shared instruments). Instrument logbooks shall be kept in a readily accessible location near the instrument. For calibrations that are managed centrally by the QAM (e.g., balances, pipettes), documentation shall be maintained in the QA files. Vendors that provide calibration services shall be accredited to International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 17025 (7) where available. For calibration services received by non-ISO/IEC 17025 accredited vendors, sufficient justification must be made, documented, and authorized by the organization's management.

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Alternatively, in-house metrology laboratories that provide calibration services for ORD support equipment may be used; however, these laboratories shall follow the requirements of this PPM and are subject to the internal and external laboratory competency audits as described in PPM 13.10 (4).

Analytical Instrumentation

Laboratory and field analytical instrumentation shall, if possible, be calibrated prior to use with standards of known and documented quality and uncertainty, traceable to a recognized standard organization whenever available. In the event that calibration standards are not available commercially, they may be prepared in-house in accordance with written procedures that have been reviewed and approved. A verification of the initial calibration should be conducted using a standard from a different source (second source) than that used for the initial calibration. Examples of second sources are Standard Reference Materials (SRMs), Certified Reference Materials (CRMs), performance evaluation samples, a standard from a vendor other than the calibration standard vendor or from a different lot from the same vendor. Acceptance criteria shall be specified for second source standards in the SOP/QAPP/facility manual/research notebook, and corrective actions documented in instances where criteria are not met. If this second source check is not performed, justification, such as lack of availability, shall be documented in a SOP/QAPP/facility manual. Calibration shall be checked at the beginning and end of a sample set and periodically during use, according to manufacturer's instructions or as otherwise documented in an SOP or method. The calibration range of an instrument should not be exceeded. Results reported outside calibration ranges shall be qualified to reflect the fact that the accuracy of the reported concentration is uncertain.

Supporting Equipment

Prior to project initiation, the PI or a designee shall ensure that supporting equipment is in good operating condition and is properly calibrated, if the equipment can be calibrated. Appropriate QA/QC checks should be performed as presented in Exhibit 1 and Exhibit 2.

Balance/Weights Maintenance and Calibration

Balances (analytical, micro-, top-loading, etc.) shall be serviced annually and have their calibrations re-certified by an outside vendor or in-house metrology laboratory against American National Standards Institute/ASTM (ANSI) Class 1 weights (e.g., National Institute for Standards and Technology (NIST) traceable reference weights) that encompass the range of use. Balance calibration also shall be checked periodically by the user, or designee, with secondary "working" weights of an appropriate ANSI/ASTM classification as determined by the accuracy required for the research and that bound the range of use. These calibration checks are recommended once each day the balance is in use, unless justification for less frequent checking is documented in a QAPP (or similar planning document), SOP, or facility manual. Calibration checks shall be documented in paper or electronic laboratory records for the project or in instrument logbooks for the laboratory or field unit. The working weights are verified against ANSI/ASTM Class 1 traceable reference weights on a regularly scheduled, annual basis. In order to maintain traceability to national standards, the ANSI/ASTM Class 1 traceable reference weights shall be certified on a regularly scheduled basis by an ISO/IEC 17025 (7) accredited organization, at a frequency of at least once every five years.

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Pipette Maintenance and Calibration

Mechanical variable and fixed volume pipetting devices shall be subjected annually to routine maintenance and calibration by an ISO/IEC 17025 (7) accredited outside vendor or in-house metrology lab to ensure that expected volumes are delivered within acceptance criteria as determined by the nature and frequency of use of the pipette. If volume dispensing issues are suspected, the pipette should be removed from service until a verification of performance is conducted.

Reagent Water Systems

Single-lab and common-use reagent water systems should be maintained according to manufacturer's specifications. Maintenance of the system should be documented in a logbook, but additionally may be documented by an affixed label on the system itself. User verification checks include reading and documenting resistivity meter display weekly with use to ensure water quality meets system specifications and user requirements. User verification checks shall be documented in paper or electronic laboratory records for the project or in instrument logbooks for the laboratory.

Environmental Conditions

Facility managers typically monitor a normal set of environmental conditions. In addition, if temperature, pressure, humidity, atmospheric composition, or any other environmental condition must be controlled during the implementation of analytical or field procedures (e.g., incubator temperature for microbiological tests), it shall be monitored and documented to ensure that the required range of the environmental condition is maintained. Monitoring instrumentation should be calibrated, if applicable, or verified at a specified frequency using traceable calibration standards of known and documented uncertainty.

Laboratory Housekeeping

Laboratory housekeeping shall be maintained to prevent contamination of samples and experiments. Floors, counters, and cabinets shall be kept free of trash and extraneous paper to avoid dust. Laboratory benches shall be decontaminated as needed.

Demonstration of Proficiency

The [*ORD Certification Statement for Demonstration of Capability Form*](#) is an example of a form used to document proficiency. The completed form is placed in the project file, if related to a specific project. If not project related, then the Supervisor or designee shall maintain documentation of these activities.

Analyst Proficiency

Analysts with no prior experience with a technique/method/instrument shall demonstrate and document their proficiency before analyzing samples. They must demonstrate proficiency by: 1) performing valid initial calibrations, 2) performing method detection limit determination, if appropriate, 3) demonstrating that his/her results meet all minimum QA/QC acceptance criteria as presented in the method document, e.g., the SOP, and if available, 4) satisfactorily analyzing a performance evaluation sample or a second source standard. Documents generated to support demonstrations of proficiency are records that should be saved and readily associated with the ORD training certification statement, as appropriate.

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Field Staff Proficiency

Prior to conducting field activities, the PI shall work with first-line supervisors to ensure that all staff assigned to the project are proficient in sampling protocols and equipment associated with the project. For additional details, refer to the Quality Assurance Field Activities Procedure (1) and PPM 13.14 (5). Documents generated to support demonstrations of proficiency are records that should be saved and readily associated with the ORD training certification statement, as appropriate.

Sample and Standard Storage

Refrigerators, refrigerated rooms, and freezers used to store samples shall be monitored for temperature. It is recognized that frequency of monitoring can be dependent on available equipment and can range from continuous to a particular moment in time when the user reads a thermometer. At a minimum, the frequency of monitoring will be weekly, unless otherwise documented in a QAPP or SOP. Acceptance criteria shall be defined and documented in an organization's QMP, policy, or SOP for a specific storage area, project or organization, as appropriate. If the temperature falls outside of established acceptance criteria, corrective action should be taken and documented and the potential impact on samples evaluated.

Samples and standards shall be maintained to ensure their integrity. Integrity can be demonstrated using requirements from standard methods or literature, or by empirical demonstration. For example, based on available published methods, a project-specific QAPP or a SOP may specify that samples require refrigeration if sample analysis is not to be performed immediately upon sample collection or sample preparation. Any sample or standard not consumed during the analytical procedure must be immediately returned to the refrigerator or freezer (or other comparable environmental conditions) until it is determined that additional analyses are not needed.

Adequate measures shall be taken to protect stored samples and standards from each other, heavily contaminated samples, and other materials that could potentially cross-contaminate them. For example, this could be accomplished by appropriate secondary containment within a single refrigerator or freezer.

Applicable sample holding times and preservation requirements shall be followed and documented in project-specific QAPPs/SOPs and based on available published methods in order to minimize the loss of analytes of interest.

Standard Preparation

Standard preparation documentation shall include as appropriate the date, analyst identification, the identity of the stock/intermediate standard used and its source/lot number, identifying chemical information, preparation procedures, concentrations, solvent, carrier or buffer, and applicable expiration dates. The documentation shall be recorded in paper or electronic laboratory records for the project or in instrument logbooks for the laboratory. Standards shall be stored to maintain their integrity. Researchers shall be responsible for maintaining the integrity of standards, or disposing of them on a timely basis if they have exceeded their expiration date.

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QA/QC Checks

QA/QC checks of analytical procedures, methods and techniques shall be performed as defined in applicable SOPs/QAPPs/facility manuals. The results of the QA/QC checks shall be recorded in paper or electronic laboratory records for the project or in instrument logbooks for the laboratory. QA/QC checks for field procedures such as field blanks and duplicates will be described in QA Project Plans and depend on the needs of the project.

Acceptance criteria for QA/QC checks may be documented in SOPs/QAPPs/facility manuals. When QA/QC checks are not defined in SOPs/QAPPs/facility manuals, at a minimum and as possible, positive controls (e.g., standards of known composition or matrix spikes), negative controls (e.g., blanks), and replicates (e.g., duplicates) should be performed periodically where applicable to demonstrate the accuracy and precision of a method for each unique matrix.

When available, the uses of SRMs or CRMs are strongly encouraged to provide for additional validation of the analytical process. Cost considerations might dictate that they be used only periodically.

Method Detection Limits (MDLs)

It is understood that a variety of techniques as well as terminology surround the issue of detection and quantitation limits, and therefore the method for determination of the limits shall be documented for instruments that report values below the lowest calibration standard. One approach is found in Title 40 Code of Federal Regulations (CFR) Part 136 Appendix B (8). MDLs shall be determined if results beyond the lowest and highest calibration standards are reported. Results beyond calibration ranges shall be qualified to reflect the fact that the accuracy of the reported concentration is uncertain. The concentration of the lowest (or highest) calibration standard should also be provided with the sample data so that the user of the data has as much information as possible about any concentration outside the instrument calibration range.

Data Review - Compliance with Acceptable Criteria

For each analysis, the analyst shall review results for QC checks performed to determine compliance with acceptance criteria specified in the applicable SOPs/QAPPs/facility manuals. If acceptance criteria are not met, the analyst shall perform corrective action as required by the applicable SOPs/QAPPs/facility manuals. The results of the data review shall be recorded in paper or electronic laboratory records for the project, and shall be provided to QAMs, if requested, during their review of data related to publications.

Data Storage

Documentation of research activities, including all analytical data, (electronic and/or hardcopy) shall be maintained as required by EPA's records management policies. The pertinent EPA Records Schedules for ORD research records is 1035 (6).

DELEGATIONS

Not Applicable

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APPROVAL

JERRY BLANCATO

Digitally signed by JERRY BLANCATO

DN: c=US, o=U.S. Government, ou=USEPA, ou=Staff, cn=JERRY
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Date: 2017.11.17 09:25:30 -05'00'

Senior Information Official for Research and Development

Date

Effective six months following approval.

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EXHIBIT 1: Requirements for Supporting Equipment Checks and Documentation

Equipment	Calibration/ Maintenance Frequency Notes*	User Verification Checks**	Required Documentation
Balances	Annually	Daily with use	User verification checks kept on log sheets or logbooks, or associated research notebook if done for a specific project and maintained by on-site employees. Annual calibration records maintained by QAM or other designated party.
Pipettes	Annually	Verification recommended approximately 6 months after annual calibration.	Annual calibration records maintained by QAM or other designated party. User verification checks kept on log sheets or logbooks, or associated research notebook if done for a specific project.
Temperature monitoring, automated (Refrigerators & Freezers)	Annually	None	Logbooks for each probe are not required. Annual calibration records maintained by QAM or other designated party.
Temperature monitoring, manual (Refrigerators & Freezers)	See “Thermometers, working”	Temperatures documented at least weekly unless otherwise documented in QAPP or SOP.	Log sheets or logbooks kept for each refrigerator/freezer. Also see “Thermometers, working”
Thermometers, reference	Verified once every 5 years using an ASTM/NIST thermometer	None	Verification records maintained by QAM or other designated party.
Thermometers, working	None	Verified annually using reference thermometer	Verification records maintained by QAM or other designated party
Weights, traceable reference	Once every 5 years	None	Certification records maintained by QAM or other designated party.
Weights, working	Verified annually using traceable reference weights.	None	Verification records maintained by QAM or other designated party.

*Annual calibrations or verifications should be indicated by a sticker attached to the equipment. Contracted vendors with ISO/IEC 17025 (7) (or similar) accreditation or in-house metrology labs may perform these calibrations.

**User verification checks apply to equipment in active use. Out-of-use equipment shall be clearly labeled as such and documented in the associated logsheet/logbook. Return to active use, shall also be indicated in logsheet/logbook.

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EXHIBIT 2: Supporting Equipment Checks and Documentation, Option to Use Documented Specialized Requirements***

Equipment	Calibration/ Maintenance Frequency Notes*	User Verification Checks**	Required Documentation
Autoclaves, steam	Annually (time, temperature, and pressure)	Biological indicator-monthly spore checks. Chemical indicator/integrator-with each use. Mechanical monitoring (temperature & pressure gauges and recording charts) with each use.	All calibration/maintenance records kept by responsible technical staff or other designated party. User verification checks kept on log sheets or in logbooks.
Centrifuges (microcentrifuges exempted)	Annually (e.g. rotational velocity, temperature, timer, brushes, rotors, as appropriate)	None	Annual calibration records maintained by responsible technical staff or other designated party.
Incubators	CO ₂ flow calibrated annually.	Temperatures and gas concentration (if applicable) documented daily with use using internal thermometer. Biweekly checks of CO ₂ concentration with the Fyrite Analyzer with use.	User verification checks kept on log sheets or logbooks, or associated research notebook if done for a specific project and maintained by on-site employees. All calibration/maintenance records kept by responsible technical staff or other designated party.
Reagent water systems (single-lab)	None. Systems maintained according to manufacturer's specifications.	Resistivity meter readout documented weekly with use to ensure water quality meets system specifications.	Log sheets or logbooks kept for each unit.
Reagent water systems (facility-wide and centrally managed)	None. Systems maintained according to facility specifications	None. Rely on central monitoring and logging of water quality.	Facility logs
Thermocyclers	Annually (thermal characteristics that influence the outcome of a polymerase chain	None	Calibration records maintained by user or party responsible for instrument. Diagnostic results recorded in research records.

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Equipment	Calibration/ Maintenance Frequency Notes*	User Verification Checks**	Required Documentation
	reaction, including accuracy, uniformity, overshoot/undershoot, heat/cool rate and hold time)		
UV lights	None	Verification is performed yearly to ensure lights are meeting minimum specification for UVC flux.	Verification records maintained by user.

*Annual calibrations or verifications should be indicated by a sticker attached to the equipment. Contracted vendors with ISO/IEC 17025 (7) (or similar) accreditation or in-house metrology labs may perform these calibrations.

**User verification checks apply to equipment in active use. Out-of-use equipment shall be clearly labeled as such and documented in the associated logsheet/logbook. Return to active use, shall also be indicated in logsheet/logbook.

*** Specialized documented requirements that are different from those listed should be documented in QAPPs and/or SOPs.

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APPENDIX A: Training

Chapter 13 of the ORD Policies and Procedures Manual focuses on quality assurance (QA) for ORD's research. Training for Chapter 13 is made available in several ways, as follows:

- One-on-one training with a QA Manager.
- Self-directed training using Power Point slides and/or recorded webinars are available on [ORD@Work](#).
- Group classroom style training, available by request.
- Group training via webinar which is scheduled for newly approved sections of Chapter 13.

Training for QA Managers (QAMs) by ORD senior QA staff will precede delivery of training by QAMs to research staff.

Questions about training can be directed to any member of ORD's [QA staff](#).

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SECTION 13.6 – SCIENTIFIC RECORDKEEPING: ELECTRONIC

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LIST OF ACRONYMS

COC	Chain of Custody
DQA	Director of Quality Assurance
ECMS	Enterprise Content Management System
ELN	Electronic Laboratory Notebook
E-Record	Electronic Record
IT	Information Technology
LCA	Laboratory Competency Assessment
NERL	National Exposure Research Laboratory
NHEERL	National Health and Environmental Effects Research Laboratory
NRMRL	National Risk Management Research Laboratory
OP	Operating Procedure
ORD	Office of Research and Development
PI	Principal Investigator
PPM	Policy and Procedure Manual
PQAM	Project Quality Assurance Manager
QA	Quality Assurance
QAM	Quality Assurance Manager
QAPP	Quality Assurance Project Plan
QC	Quality Control
QMP	Quality Management Plan
QSA	Quality Systems Audit
RLO	Record Liaison Officer
SDM	Scientific Data Management
TSA	Technical Systems Audit

POLICY STATEMENT

The purpose of this policy is to establish procedures for maintaining electronic records (e-records) for research conducted for the Agency. It is a companion to and agrees with the principles of Office of Research and Development (ORD) PPM 13.2, *Scientific Recordkeeping: Paper* (1) This PPM is not intended to be inclusive of all electronic records initiatives presently being conducted in the Agency, but rather is seen as a starting point for an electronic records structure so electronic research records will have some consistency across all of ORD.

A concurrent effort is the development of ORD Scientific Data Management (SDM) Policy and Procedures (PPM 9.14) (2). The purpose of the SDM Policy is to ensure the long-term management, usability and accessibility of ORD scientific data. The guidelines documented in ORD SDM Procedural Guidance complement this e-records policy.

Implementation of this electronic records policy for a given research effort is ultimately the responsibility of the scientist responsible for it, with assistance from the scientist's line management as well as the Quality Assurance Manager (QAM) and Record Liaison Officer (RLO). A research effort can contain both paper and electronic records. Storage and archiving of all research project records are the responsibility of the scientist or whoever is the documented

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leader of the research project. The Principal Investigator (PI) is identified in the QA Project Plan (QAPP).

REFERENCES

- (1) EPA Office of Research and Development *PPM 9.14 Scientific Data Management Policy*; current version
- (2) EPA Office of Research and Development *PPM 13.2; Scientific Recordkeeping: Paper*; current version.
- (3) EPA Office of Research and Development *PPM 13.7: Use of the Graded Approach*, current version.
- (4) EPA *Records Management Policy*; Information Policy CIO 2155.3, 2015.
<http://intranet.epa.gov/oei/imitpolicy/qic/ciopolicy/CIO-2155.3.pdf>.
- (5) EPA Records Schedule 1035 <http://intranet.epa.gov/records/schedule/final/1035.html>.

BACKGROUND

Complete documentation of research activities is essential for the Agency to fulfill its mission. Research performed by the ORD may be used in scientific, legal, administrative and other contexts. The research record must:

- Document and preserve the research data and activities;
- Provide a reference for guidance in related work;
- Enable the continuity of operation;
- Furnish adequate information so others of equal or higher technical education and experience may fully understand or replicate the research.

The intent of this PPM 13.6 is to ensure consistent management of all electronic records related to ORD's research, and to provide for an electronic alternative to the research notebook and associated documentation (forms, logbooks, etc.). The continued use of traditional paper records for recording some research activities is acknowledged and ORD requirements for use of paper records for documenting research are formalized in ORD PPM 13.2 (2).

In addition to this PPM, the development of the ORD SDM Policy (1) is a separate, but related effort to the creation of this guidance. The SDM Policy complements PPM 13.6 but also goes beyond it. In contrast to the SDM Policy, which focuses on handling of data sets, PPM 13.6 aims at documenting scientists' thought and work processes, so that others with comparable education and training can reproduce the research.

E-records should be:

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- Detailed enough to provide necessary information about a research effort (and with flexibility based on the graded approach – see PPM 13.7 *Use of the Graded Approach* (3) for more information); and
- Consistently labeled, stored and formatted so records can be easily recognized and retrieved by scientists, project and program managers, records managers and collaborators.

This PPM 13.6 policy is intended for research conducted by ORD staff; however, individual organizations have discretion in applying this policy to work performed under extramural vehicles. One way to invoke the use of the policy is to require it in the extramural organization's QAPP.

Plan for Management of Electronic Research Records

Individual scientists are responsible for their electronic research data for a given research effort. Coordination amongst the scientists, the PI, and line management is necessary to determine how data will be saved electronically. In larger projects, where the research may involve up to 50 scientists, the overall data research plan (paper and electronic records) could be in a Quality Management Plan (QMP) and be decided at the PI and Project QA Manager (PQAM) level. At the end of these multidisciplinary research projects, final data should be sent to the PI to be placed on a secure OSIM managed networked server. Version control of software for scientific data electronic records should be documented where applicable, unless the software does so automatically; many electronic laboratory notebooks (ELNs) have version control written into their software.

DEFINITIONS

Electronic Research Records (aka E-records)

The collective term used for research notes, data, databases, and other research project materials that are collected and/or stored electronically.

Metadata

Metadata are information used to identify, describe, define and interpret experimental data.

Paper Research Records

The collective term used for research notebooks, logbooks, compilations of data on pre-printed forms and instrument print-outs.

Records

All recorded information, regardless of form or characteristics, made or received by a Federal agency under Federal law or in connection with the transaction of public business and preserved or appropriate for preservation by that agency or its legitimate successor as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities of the United States Government or because of the informational value of data in them.

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Research Records

Refers to records (paper and electronic) that were generated during the course of a specific research effort; including, but not limited to, all planning documents (e.g., research plans, Quality Management Plans, QA Project Plans); all research operating procedures and methods; all effort-specific research notebooks; all research project-related correspondence/e-mail; raw data; all reports generated as a result of a quality assurance or peer review (either internal or external); and all products (e.g., podium presentations, posters, manuscripts in the peer-reviewed literature, EPA 600 reports, book chapters, and reports to Congress) that are part of the research effort. A study folder where records can be stored should be established at the beginning of the research.

Supporting Research Information

Refers to records that provide ancillary data about experimental conditions that may influence the quality of the research. This information is dependent on the type of research activities being performed. Instrument use, maintenance, calibration, climatic controls and standard reference materials used are all representative of supporting information.

RESPONSIBILITIES

Principal Investigators (PIs)

PIs are responsible for: (1) management and storage of their research records; and (2) verifying that all research personnel (federal scientists, student contractors, post-docs, etc.) who work on their research are trained on this electronic records policy before research activities begin. Formal group training may be available. In addition, they are responsible for creating and maintaining the study files, which include the electronic records, and the proper storage and disposition of research records in accordance with EPA's approved records schedules.

Quality Assurance Manager (QAM)

Periodically, the QAM may conduct a surveillance of research notebooks to ensure the requirements for research records are effectively implemented within their organizational unit. This periodic review and assessment of research records will ensure the effective implementation of research record practices.

Record Liaison Officers (RLOs)

Record Liaison Officers shall provide overall guidance regarding scientific record keeping and shall assist in the final archiving of scientific records. If possible, they shall create custom sites for records when scientists leave EPA.

Scientific Staff

Scientific staff shall participate in training relative to this policy and support the PI and line management in its implementation.

Supervisors

Supervisors are responsible for ensuring that PIs receive appropriate training relative to this policy. Periodically, the supervisor should discuss the requirements for and use of research records with their PIs. The Supervisor should also periodically review research records to ensure that research documentation is accurate, legible, and complete.

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PROCEDURES

ORD PPM 13.6 focuses on a systematic approach for managing electronic records generated by ORD scientists who conduct studies. These procedures presume a reliance on Agency and ORD network resources where issues of security and backup are addressed by Agency Information Technology (IT) professionals.

However, the number of widely varying computer systems potentially used in research requires flexibility for scientists to maintain accurate and complete electronic records and may, at times, require that electronic records are not immediately stored on network resources. Under these circumstances, scientists must manage their electronic scientific data and computer resources according to best practices as outlined in this PPM and/or as stated in the project plan, QMP and QAPP for each individual project or task, and ensure that documentation stored on the network clearly points to electronic records stored in other systems. Data not stored on network servers must be backed up as generated and must be placed on network servers, as soon as practicable (and within the limitation of available Agency network resources). Additionally, in accordance with the Scientific Data Management Policy (PPM 9.14) (1), scientists must document where their data are stored in their Scientific Data Management Plans. The Lead PI is ultimately responsible for documenting all data at the end of the study.

The procedures described below will help ensure that adequate raw, reviewed instrument-derived and metadata are available for accurate and independent interpretation of research results and that research information is systematically stored and is retrievable. Additionally, the procedure provides for an ORD electronic records checklist (Attachment 1) which can be used by the scientist to check the completeness of their project records and by the QAM and RLO for audits. It can also be used by supervisors, management and outside auditors to check for completeness of electronic scientific research data.

Establish an Electronic Folder for Each Research Effort

Research folders should not be mixed together but should stand independently from one another. Each research effort should be in a **Separate Electronic Folder** that makes sense and is achievable for the particular effort. For example, the folder could be labeled by:

- laboratory name (NHEERL, NERL, NRMRL);
- research program (CSS);
- project title; and, if applicable, a running title (Toxicity of Biofuels);
- research effort (Ethanol Additives); and
- QA TRACKing number (e.g., G-STD-0021329-SD-2-0)

Prepare a Summary File (see checklist in Attachment 1)

A research effort should have a **Summary File** if the researcher thinks it would be helpful for providing a succinct description of the research. It can be prepared at the end of a project or at a significant milestone. The summary file explains the results of the project and can discuss future research. This file identifies the following:

- Personnel (Technical leads, research scientists, all collaborators and administrators);

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- Operating Procedure (OP), QMP, and QAPP information;
- Location of all data, laboratories, and field sites;
- Dates of the project;
- Funding, Abbreviations, Acronyms and Units of Measure;
- Contact information for collaborators; and
- Manuscripts and presentations that resulted from the project.

Prepare a Master Folder/Table of Contents Folder

A research effort should have a **Master Folder** of all electronic data records that is appropriate for the specific research effort. The file types listed below are one possible guide for organizing electronic records which should include information like abstracts, publications, draft and published manuscripts, peer and quality assurance (QA) and records reviews, location of samples, reports, a list of all samples and their locations, QAPPs, notebooks, abstracts, and any major team awards. The Master Folder includes all of these files and can be compiled throughout or at the end of a project.

Prepare a Review and Signature Folder

A research effort should have a **Review Folder**. When records are reviewed by a peer scientist and by the PI, these reviews should be documented here. This is similar to the reviews required for paper records in ORD PPM 13.2 (2). For example, one possible approach is to document that pages X-Y were read and understood by (the name of the reviewer) and the date of the review. An electronic signature and date stamp can identify the reviewer and can be utilized if available. A **Signature Folder** identifies all participants in the study.

Prepare a QA/QC Folder

A research effort should have a **QA/QC Folder**. All quality control (QC) data for the research effort should be described and/or contained here. This folder can point to QC data and does not necessarily have to contain raw data. A record of QA audits (internal and external) can also be placed here.

Prepare Data Folders

A research effort should have **Data Folders**. Each research effort should have standardized headers on all data sheets if possible. Data folders can be in different formats (e.g., Excel, Chem Station) and there may be many data folders for each research effort. Samples could have a code name if they were not generated by machine. A master copy of all sample codes and storage location information should be available as file(s) in this folder.

Prepare Analysis Folder

A research effort should have an **Analysis Folder** compiling results of data analyses. It can be designed based on the PI's judgment, and can be constructed as sub-folders of data folders. As appropriate, each different type of analysis (e.g., R, SAS analyses) could be in a separate file or folder.

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Prepare a Software Version Control Folder, an Inventory Folder for Hardware and an Inventory File for Back-up Files

The **Software Version Control Folder** identifies all versions of software used in the research effort and their manufacturer and date of issue if known and as appropriate to the project. If appropriate, prepare an **Inventory Folder for Hardware** which lists all hardware used in the study, their manufacturer and date of issue if known. Keep these two folders updated.

Management should ensure that systems are in place to back up all data on a dedicated server if possible, since EPA data have to be kept for either 20 years or permanently. All data from the study, including paper and electronic files, go to the PI when the study is completed. Weekly file back-up of data is suggested.

Use an Electronic Lab Notebook or a Word Flow Sheet for Study Records

Scientists may use an **ELN**, OneNote, or another appropriate mechanism for collecting and saving research effort documentation (including data) or a **Flow Sheet**. This can be a complement or alternative to the files described above. These documents can link sample lists, QAPPs, OPs, chains of custody (COCs), Progress and Final Reports and any other important documents in the study to a central place. ELNs and Flow Sheets document the chronological order that experiments were conducted as would be done in a hard-bound paper notebook. Data collection should be documented in an OP or other appropriate record such as a QAPP. Files must be on a secure server.

Complete an Electronic Records Checklist

The e-records checklist (**Attachment 1**) should be used by the scientist as a tool to ensure the accuracy of their electronic records. The e-records checklist may be used by auditors for internal and external QA audits of e-records research files and as a training checklist by the supervisors. Scientists may use this PPM 13.6 checklist at the beginning, middle and end of a study to ensure that their records are complete. This e-checklist can be used by the scientists to prepare for audits, both internal and external, and can then become part of the study file if it is witnessed by another scientist, their supervisor or QA Manager.

Guidance for Electronic Storage of Research Files

Electronic research records should be stored on a secured network server if possible. Access to a study folder should be limited to the research team and QAM, or be available to a larger audience (e.g., Branch) if so desired by the PI. Scientific data should not be permanently stored on external hard drives, C or thumb drives, CDs, DVD or other portable electronic devices. These types of devices can be used for short-term storage and transport within individual laboratories. Data should not be stored solely on hard drives within a free standing computer or on multiple hard drives within a laboratory or office.

Guidance for Records Structure for Storage of ORD Electronic Scientific Records and E-Mail

The ORD network group drives are not approved electronic record keeping systems as defined by the National Archives. However, they are a means for backup and storage of records, and structured shared drives can be the first step toward moving to an automated recordkeeping solution. Therefore, to organize electronic files for proper retention and disposition, they must to be grouped together by the retention schedule disposition item (e.g., Agency records schedule 316-258_1035 (5)). Care should be taken regarding consistency in file naming, and versioning of documents, as a share drive will not perform these functions for a user.

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Electronic research files should be saved according to the EPA records schedules. ORD has established the use of QA categories to assist with, among other issues, the use of proper records schedules (3). Many resources, including examples of best practices, are available on the [ORD SDM website](#).

E-mail shall be retained electronically in the Agency Enterprise Content Management System (ECMS) per EPA Policy 2155.3, Records Management (4), which states, in part, "Maintain electronic records, including electronic mail records, in the enterprise-wide electronic content management system, when available..."

Guidance for Naming Research Files

A common approach for creating a file structure for electronic research files is based on LAB_PROJECT/FILE CODE. For example, studies done by NHEERL on Biofuels would be NHEERL_BIOF/316-258_1035a. This file structure identifies the laboratory (NHEERL) the project (Biofuels) and the File Plan Code (316-258_1035a) for the research project. All identifiers should be capitalized. File names should not contain the name of the PI, but could contain their three initials appended to the file name to denote files they have created. Explanations of codes used in file names should be detailed in the research effort Master File/Table of Contents File, related project QAPP, and/or research notebook.

DELEGATIONS

None.

APPROVAL

JERRY BLANCATO

Digitally signed by JERRY BLANCATO
DN: c=US, o=U.S. Government, ou=USEPA,
ou=Staff, cn=JERRY BLANCATO,
dnQualifier=0000001083
Date: 2017.11.17 09:33:07 -05'00'

Senior Information Official for Research and Development

Date

Effective six months following approval.

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EXHIBIT 1 ELECTRONIC RECORDS CHECKLIST

Scientist: _____ Team/Branch: _____ Review Date: _____

Research Effort Leader/PI: _____

Research Effort Title: _____

QAPP Number: _____

Auditors (name/title): _____

REVIEW QUESTIONS	RESPONSE			COMMENTS
	Y	N	NA	
A. Electronic data - PRINCIPAL INVESTIGATORS				
1. Is each research effort in a SEPARATE ELECTRONIC FOLDER , which is saved on a secure network server (separated from your computer)?				
2. OPTIONAL Does each research effort folder include a SUMMARY FILE with:				
a. Personnel?				
b. OP, QMP and QAPP information?				
c. Location of all data, laboratories, and field sites?				
d. Dates of the project?				
e. Funding, abbreviations, acronyms and units of measurement?				
f. Contact information for collaborators?				
g. Manuscripts and presentations that resulted from the project?				
3. Is every table, graph and plot in the research effort folder labeled with a standardized header so it can be linked to the research effort?				
4. Can the QA Manager or outside reviewer easily find and audit the research effort folder?				
5. Does A MASTER FOLDER of all data files/folders/directories, including electronic data files, exist in each research effort folder?				

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REVIEW QUESTIONS	RESPONSE Y N NA			COMMENTS
6. Has the PI reviewed each folder on a periodic basis, and documented this review by signing and dating the folder with the statement: “Read and understood”, PI, date, file name”? (This can be done in a REVIEW AND SIGNATURE/ FILE in the folder.)				
7. Spreadsheets, graphs or tables are common formats for electronic records. Are they labeled properly (x, y axis and legends explained)?				
8. Does the QA/QC Folder contain all the control data from the research effort or point to its location?				
B. Documentation Procedures				
9. DATA FILES contain the data from the research effort. Is each different type of data in a separate file? Are samples linked to the study (e.g., NHEERL-BIOF-001)? Are spreadsheets for data labeled with complete research effort and experimental detail (see #3)?				
10. ANALYSES FILES contain the different types of analyses conducted on the research effort. Are each different type of analyses (R, SAS, analytical chemistry) in a separate file?				
11. Are table, row, and column titles completely described in graphs, tables and figures?				
12. Have data been placed on a secure server?				
13. Are electronic data filed under EPA records retention schedules?				
14. Is a research effort log kept with each study which details research activities in a chronological order?				
15. <u>Does the Study have:</u> 1. SOFTWARE VERSION CONTROL FOLDER 2. INVENTORY FOLDER FOR HARDWARE				

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REVIEW QUESTIONS	RESPONSE Y N NA			COMMENTS
<i>16. Does the Study use an ELN, OneNote or a Flow Sheet to collect data? If not, please explain. Where are OPs, QAPPs, sample inventories, reports and other important study documents linked in this document?</i>				

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EXHIBIT 2: CHECKLIST SUMMARY

A. Best Practices:

B. Observations:

C. Corrective Actions:

D. Follow-Up Actions:

E. Additional Comments on the Audit:

Lead Auditor: _____

Date: _____

Additional Auditor _____

Date: _____

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APPENDIX A: Training

Chapter 13 of the ORD Policies and Procedures Manual focuses on quality assurance (QA) for ORD's research. Training for Chapter 13 is made available in several ways, as follows:

- One-on-one training with a QA Manager.
- Self-directed training using Power Point slides and/or recorded webinars are available on [ORD@Work](#).
- Group classroom style training, available by request.
- Group training via webinar which is scheduled for newly approved sections of Chapter 13.

Training for QA Managers (QAMs) by ORD senior QA staff will precede delivery of training by QAMs to research staff.

Questions about training can be directed to any member of ORD's [QA staff](#).

QUALITY ASSURANCE SURVEILLANCE PLAN (QASP)**Office of Research and Development Risk Management and
Ecological Exposure Research Support Services II
(RMEERS II)**

The purpose of this QASP is to identify critical performance standards and describe a plan for how EPA will survey, observe, evaluate and document the contractor's performance in meeting the standards.			
Performance Requirement	Measurable Performance Standards	Acceptable Quality Level	Incentives and Disincentives
<u>Management and Communication</u> The Contractor shall maintain contact with the EPA CO or TOCOR throughout the performance of the contract and shall immediately bring potential problems to the appropriate EPA contract/task order manager. In cases where issues have a direct impact on project schedules or cost, the contractor shall provide options for EPA's consideration on resolving or mitigate the impacts.	Any issues that impact project schedules or cost shall be brought to the attention of the appropriate EPA contract/task order manager within 3-days of occurrence.	All active task orders under the contract will be reviewed by the EPA contract/task order manager monthly (via monthly progress report) to identify unreported issues.	Performance will be considered in the award of subsequent task orders and will be factored into the annual evaluation of Business Relations in the Contractor Performance Evaluation System.
<u>Timelines</u> Services and deliverables shall be in accordance with schedules stated in each task order unless amended or modified by an approved EPA CO action	All submitted services and deliverables shall be in accordance with schedules stated in each task order. Unless amended or modified by an approved EPA CO action, a deliverable that is received later than 6 days past the due date will be considered unsatisfactory performance.	Active task orders under the contract will be reviewed by the EPA contract/task order manager monthly (via monthly progress report & milestones established for each deliverable) to compare actual delivery dates against those approved. The Contractor will notify the TOCOR when it becomes apparent that an established schedule will not be met.	Performance will be considered in the award of subsequent task orders and will be factored into the annual evaluation of Timeliness in the Contractor Performance Evaluation System.

<p><u>Cost Management and Control:</u></p> <p>Under time and materials task orders, the Contractor shall perform all work in an efficient and cost-effective manner, applying cost control measures where practical.</p>	<p>The Contractor shall monitor, track and accurately report labor cost and other direct cost expenditures to EPA through progress reports and approved special reporting requirements.</p> <p>Under time and materials task orders, the Contractor shall provide timely notice to the government (as required by the local clause EPA-B-32-103 LIMITATION OF GOVERNMENT'S OBLIGATION) regarding hourly rate payments and costs accrued including where appropriate, a revised estimate of the total price to the government for the Contractor's performance of the task order requirements.</p> <p>The Contractor shall assign appropriately leveled and skilled personnel to all tasks, practice and encourage time management, and ensure accurate and appropriate cost control.</p>	<p>Active task orders under the contract will be reviewed by the EPA contract/task order manager monthly (via meetings, monthly progress report & milestones established for each deliverable) to compare actual versus projected expenditures.</p> <p>The EPA TOCOR will maintain regular contact with the Contractor's task order managers to discuss task order progress and expenditures.</p> <p>The EPA Contract Level Contracting Officer Representative (CLCOR) will routinely meet with the Contractor's On-site Manager to discuss the work progress and individual task order expenditures.</p>	<p>Performance will be considered in the award of subsequent task orders and will be factored into the annual evaluation in the category of Cost Control in the Contractor Performance Evaluation System.</p> <p>Under time and materials task orders, an overrun of the total task order ceiling price that is the direct result of the Contractor's failure to manage and control costs will result in an "unsatisfactory" rating.</p>
<p><u>Technical Analyses:</u></p> <p>The analyses conducted by the contractor shall be factual and defensible and based on sound science and engineering. All data shall be collected from reputable sources and quality assurance measures shall be conducted in accordance with agency requirements and any additional requirements outlined in individual task orders. Any work requiring the contractor to provide options or recommendations shall include the rationale used in selecting the option/recommendation and all other options considered.</p>	<p>All analyses conducted for EPA by the Contractor must be factual and based on sound science and engineering.</p>	<p>EPA will review all analyses conducted by the Contractor and will independently consider the merit. EPA may opt to peer review analyses to further validate merit.</p>	<p>Performance will be considered in the award of subsequent task orders and will be factored into the annual evaluation in the category of "QUALITY OF PRODUCT OR SERVICE" in the Contractor Performance Evaluation System. If after reviewing the Contractor's analysis, EPA determines that the content is not factual, defensible or based on sound science, an "unsatisfactory" rating will be assigned.</p>

Attachment 3

REPORTS OF WORK

Office of Research and Development Risk Management and Ecological Exposure Research Support Services II (RMEERS II)

The Contractor shall furnish electronic copies of a combined monthly technical and financial progress report stating the progress made, including the percentage of work ordered and completed during the reporting period to the CO, CL-COR and TOCORs. Special reports may be required for selected task orders. Reports submitted under this contract shall reference the contract number, the task order number and the Environmental Protection Agency (EPA) as the sponsoring agency.

MONTHLY PROGRESS REPORT

(A) For term contracts, provide:

1. Cumulative totals for the contract amounts obligated, amounts claimed, and remaining available funds. Available funds are defined as the total obligated amount less total funds claimed.
2. Cumulative labor hours and dollars, broken out by prime contractor and subcontractor labor category, expended from the effective date of the contract through the last day of the current reporting month. Actual costs and direct labor hours expended during the current reporting month.
3. Estimated costs and direct labor hours to be expended during the next reporting period.
4. Actual costs and direct labor hours incurred for each task order issued and estimates of costs and man-hours required to complete each task order.

(B) For completion form contracts, provide:

1. a graph using a vertical axis for dollars
2. a graph using a horizontal axis for time increments that shows the actual and projected rate of expenditures against the total estimated cost of the contract.

(C) Specific discussions shall include difficulties encountered and remedial action taken during the reporting period and anticipated activity with a schedule of deliverables for the subsequent reporting period. Quality Assurance and equipment failures should be discussed.

(D) The report shall specify financial status at the task order level as follows:

1. For the current period, display the amount claimed.
2. For the cumulative period display: amount shown on approved proposal, or latest task order amendment amount (whichever is later); amount currently claimed; amount paid; amount suspended; amount disallowed; and remaining approved amount. The remaining approved amount is defined as: the approved proposal amount or latest task order amendment amount (whichever is later), less total amounts originally invoiced, plus total amount disallowed.
3. Labor hours.
 - i. A list of employees, their labor categories, and the number of hours worked for the reporting period.
 - ii. For the current reporting period, display the expended direct labor hours for prime contractor, each subcontractor and consultant and the total loaded direct labor costs.
 - iii. For the cumulative reporting period and cumulative task order period, and the cumulative task order life display: the negotiated, expended and remaining direct labor for prime contractor and each subcontractor and consultant and the total loaded direct labor costs.
 - iv. Display the estimated direct labor hours and costs to be expended during the next reporting period.
 - v. Display the estimates of remaining direct labor hours and costs required to complete the task order.
4. Unbilled allowable costs. Display the total costs incurred but unbilled for the current reporting period and cumulative for the task order.
5. Average total cost per labor hour. For the current task order period, compare the actual total cost per hour to date with the average total cost per hour of the approved task order proposal.
6. A list of deliverables for each task order during the reporting period.
7. The amount of funding as specified by the Government for the task order; the amount of funding remaining; and the percentage of funding remaining.

(E) This submission does not change the notification requirements of the "Limitation of Cost" or "Limitation of Funds" clauses requiring separate written notice to the Contracting Officer.

(F) The contractor's program manager will compile a Staff Report listing of contractor and subcontractor employees. This listing will be part of the monthly report. The CO, CL-COR, TOCOR and Alternate TOCOR and any other EPA staff as designated by the CL-COR or TOCOR will receive this list. Once the initial list is established, updates will be addressed in the report. This report shall identify any updates or changes including additions and eliminations of staff. The changes shall be explained in the email transmittal and annotated accordingly in the spreadsheet. If no activity happened, this will be noted in the email that there were no changes. The following information shall be included on a spreadsheet:

1. First and Last name
2. Job Title/Labor Category
3. Task Order they are working under and percentage if more than one task order
4. Separation Date for Inactive Staff
5. Employer (contractor or subcontractor)
6. EPA TOCOR
7. Govt site or vendor site
8. Location: city/EPA facility/bldg./room # or if off-site vendor site
9. EPA issued computer – Yes/No
10. EPA computer decal #
11. EPA email address
12. Date submitted into iBoard
13. EPASS badge needed – Yes/No
14. Access to what bldgs. in location other than main bldg.
15. EPA training – progress against mandatory training
16. If person needs or has Lan account
17. Notes/Comments

(G) The reports shall be submitted to the following addressees on or before the 20th of each month following the first complete reporting period of the contract. See EPAAR 1552.232-70, Submission of Invoices, paragraph (e), for details on the timing of submittals. Distribute reports as follows:

Number of electronic copies:

- 1 to Contract-Level Contracting Officer Representative (CL-COR)
- 1 to TOCOR and Alternate TOCOR
- 1 to Contracting Officer

FINAL REPORTS

The specific final report requirements will be included in each task order and unless stated otherwise in the task order, the format cited below will be used.

An approved final report shall be submitted for each task order issued. The task order final reports shall be submitted error free to the EPA TOCOR and include all drawings, tables, charts, data, computer programs, and other documentation pertinent to the requirements or as otherwise specified by the EPA. Responding to the comments of EPA, the contractor shall revise and correct the draft report as directed. At the initiation of each effort, the EPA TOCOR will approve the number, timing, content, and approval requirements for the work effort final report.

Within thirty (30) days of the task order award, the contractor shall update the Quality Assurance Project Plan.

Project Interim and final reports may include but not be limited to internal reports, text and figure preparation for presentation by either contractor or EPA personnel, and papers for submission to professional publications.

QUALITY ASSURANCE PROJECT PLANS

Each task order (TO) requires an EPA approved Quality Assurance Project Plan (QAPP). The requirements for the QAPP will be identified in the PWS for each TO. The QAPP shall be submitted by the contractor to the EPA TOCOR in accordance with a schedule set by the TOCOR, but before a measurement, data gathering, or data generation activity begins. The QAPP shall be submitted as a separate document as part of the task order deliverable.

The contractor shall submit an electronic copy of the QAPP to the TOCOR. This copy shall be accompanied by a QAPP Approval Form with the appropriate signatures. The contractor shall also provide any supporting documentation, such as work plans, standard operating procedures, etc.

No measurement, data gathering, or data generation activity may be started without an EPA approved Quality Assurance Project Plan.

QUALITY ASSURANCE REPORTING

Each interim or final report produced by a measurement, data gathering, or data generation activity shall include, as an integral section of the Project Report or as an

Appendix, a readily identifiable discussion of the data quality of research results. The report shall include the following items as a minimum.

- Discussion of the quality of data produced in terms of precision, bias, completeness, representativeness, and comparability, or semi-quantitative assessments of data quality, as applicable.
- Changes to the QA project plan, if any.
- Limitations or constraints on the use or applicability of the data, if any.
- Results of systems or performance audits.
- Identification of any significant QA/QC problems encountered.
- Resolution (i.e., corrective actions) of significant QA/QC problems.

OTHER REPORTING REQUIREMENTS

Individual task orders may specify additional reporting requirements not addressed above. The Contractor may be required to prepare written narratives, slides or photographs, and charts, graphs, drawings or other graphics to permit clear presentation of the progress of any ongoing task orders. The Contractor shall ensure that such deliverables are of high quality and that all reported work is supported by documentation and references to enable work to withstand scientific critique. Assumptions made by the Contractor shall be identified and clearly explained as to validity and limitations. Calculations must be supported by sufficient data and explanation to permit cross-checking, and investigative procedures must be clearly presented.

Attachment 4

Definitions of Minimum Labor Requirements

Office of Research and Development Risk Management and Ecological Exposure Research Support Services II (RMEERS II)

Minimum Labor Requirements

The following labor classification definitions provide the minimum requirements for the associated professional and technical labor categories for the preparation of the technical and cost portions of your proposal.

PROFESSIONAL

(a) **Level 4** - Plans, conducts, and supervises projects of major significance, necessitating advanced knowledge and the ability to originate and apply new and unique methods and procedures. Supplies technical advice and counsel to other professionals. Generally, operates with wide latitude for un-reviewed action.

Typical Title: Project Manager, On-Site Technical, Manager, Senior Chemist, IRMS Chemist, Senior Engineer, Senior Microbiologist.

Minimum Qualifications: Ph.D. Degree or Equivalent

Minimum Experience: 10 years

(b) **Level 3** - Under general supervision of project manager or senior management, plans, conducts, and supervises assignments normally involving smaller or less important projects. Estimates and schedules work to meet completion dates. Directs levels under professional level 3 and technical levels, reviews progress, and evaluates results, makes changes in methods, design, or equipment where necessary. Operates with some latitude for un-reviewed action.

Typical Title: Aquatic Biologist, Bioinformatician, Technical Writer, Junior Chemist, Junior Engineer, Junior Microbiologist, Junior Scientist, GIS Specialist, Quality Assurance Manager.

Minimum Qualifications: Master's Degree or Equivalent

Minimum Experience: 6 years

(c) **Level 2** - Under supervision of a project manager or senior management, carries out work assignments associated with specific projects. Translates technical guidance received from supervisor into usable data applicable to the particular assignment; coordinates the activities of lower professional levels or technicians. Task orders are varied and require some originality and ingenuity.

Typical Title: Bioinformatician, Aquatic Biologist, Entry-Level II Chemist, Entry-Level II Engineer, Remote Sensing Specialist, Microbiologist, GIS Specialist, Entry-Level II Scientist, Public Health Specialist, Geologist, Algal Taxonomist

Minimum Qualifications: Bachelor's Degree or Equivalent

Minimum Experience: 3 years

(d) **Level 1** - Works under close supervision of project manager or senior management. Gathers and correlates basic data and performs routine analyses. Works on less complicated assignments where little evaluation is required.

Typical Title: Entry-Level I Chemist, Entry-Level I Engineer, Public Health Specialist, Technical Writer, Entry-Level I Scientist, Taxonomist

Minimum Qualifications: Bachelor's Degree or equivalent

Experience: none

TECHNICAL

(a) **Level 2** – Performs assignments that are normally standardized. Operates testing equipment of moderate complexity. May troubleshoot, malfunctioning equipment and make simple repairs. Performs routine maintenance and may install or set up test equipment. Extracts and processes test data. Helps gather and correlate basic data and assists with routine analyses.

Typical Title: Technician, Aquatic Biologist, Chemist

Experience: 2 years

(b) **Level 1** – Performs simple and routine tasks under close supervision. Records test data and may prepare simple charts and graphs. Helps extracts and processes test data.

Typical Title: Chemist

Experience: none

EXPERIENCE/QUALIFICATIONS SUBSTITUTIONS

(1) Ph.D. Degree: A Master's Degree or higher plus any combination of additional experience (beyond the minimum experience requirement) and/or graduate level study in the proposed field of expertise totaling four years, or Bachelor's Degree plus any combination of additional experience (beyond the minimum experience requirement) and/or undergraduate level study in the proposed field of expertise totaling six years. (No other equivalent combinations apply)

(2) Master's Degree: A Bachelor's Degree plus any combination of additional years of experience (beyond the minimum experience requirement) and/or graduate level study in the proposed field of expertise totaling four years. (No other equivalent combinations apply)

(3) Bachelor's Degree: Any combination of additional years of experience (beyond the minimum experience requirement) in the proposed field of expertise and/or full time college level study in the particular field totaling four years. (No other equivalent combinations apply)

(4) Technical classifications: Any combination of additional years of experience in the proposed field of expertise and/or any college level study in the particular field of expertise. (beyond the minimum experience requirement)

(5) Additional years of experience or graduate/full time college level study used to meet the education substitution requirement will not count toward the minimum years of experience specified for applicable professional levels. For example, the experience qualification for a professional level 3 position is six years. Therefore, in order to meet the qualifications for a professional level 3 position, an individual with a Bachelor's Degree would need to have four years of experience or graduate level study over and above the six years of experience typically required for a professional level 3 position.

NOTE: Each year of graduate level study (as applicable) in an appropriate field will be considered equal to 1 year of experience (i.e., a one-to-one basis).